

FIG. 1A

gggcaggaagacggcgctgcccggaggagc	-153
ggggcgggccccggcggcggggagcggggcggcggggagccaggccggcggggggggggggggggggggggggggcag	-77
aagaggcggcggccggcgtccggccggctgcggcgttggccttggcttggcggcggcgggtggagaag	-1
ATG CTG CAG TCC CTG GCC GGC AGC TCG TGC GTG CGC CTG GTG GAG CGG CAC CGC TCG	57
M L Q S L A G S S C V R L V E R H R S	19
GCC TGG TGC TTC GGC TTC CTG GTG CTG GGC TAC TTG CTC TAC CTG GTC TTC GGC GCA	114
A W C F G F L V L G Y L L Y L V F G A	38
GTG GTC TTC TCC TCG GTG GAG CTG CCC TAT GAG GAC CTG CTG CGC CAG GAG CTG CGC	171
V V F S S V E L P Y E D L L R Q E L R	57
AAG CTG AAG CGA CGC TTC TTG GAG GAG CAC GAG TGC CTG TCT GAG CAG CAG CTG GAG	228
K L K R R F L E E H E C L S E Q Q L E	76
CAG TTC CTG GGC CGG GTG CTG GAG GCC AGC AAC TAC GGC GTG TCG GTG CTC AGC AAC	285
Q F L G R V L E A S N Y G V S V L S N	95
GCC TCG GGC AAC TGG AAC TGG GAC TTC ACC TCC GCG CTC TTC GTG GCC AGC ACC GTG	342
A S G N W N W D F T S A L F F A S T V	114
CTC TCC ACC ACA GGT TAT GGC CAC ACC GTG CCC TTG TCA GAT GGA GGT AAG GCC TTC	399
L S T T G Y G H T V P L S D G G K A F	133
TGC ATC ATC TAC TCC GTC ATT GGC ATT CCC TTC ACC CTC CTG TTC CTG ACG GCT GTG	456
C I I Y S V I G I P F T L L F L T A V	152
GTC CAG CGC ATC ACC GTG CAC GTC ACC CGC AGG CCG GTC CTC TAC TTC CAC ATC CGC	513
V Q R I T V H V T R R P V L Y F H I R	171
TGG GGC TTC TCC AAG CAG GTG GTG GCC ATC GTC CAT GCC GTG CTC CTT GGG TTT GTC	570
W G F S K Q V V A I V H A V L L G F V	190
ACT GTG TCC TGC TTC TTC ATC CCG GCC GCT GTC TTC TCA GTC CTG GAG GAT GAC	627
T V S C F F I P A A V F S V L E D D	209

FIG. 1B-1

TGG AAC TTC CTG GAA TCC TTT TAT TTT TGT TTT ATT TCC CTG AGC ACC ATT GGC CTG	684
W N F L E S F Y F C F I S L S T I G L	228
<hr/>	
GGG GAT TAT GTG CCT GGG GAA GGC TAC AAT CAA AAA TTC AGA GAG CTC TAT AAG ATT	741
G D Y V P G E G Y N Q K F R E L Y K I	247
<hr/>	
GGG ATC ACG TGT TAC CTG CTA CTT GGC CTT ATT GCC ATG TTG GTA GTT CTG GAA ACC	798
G I T C Y L L G L I A M L V V L E T	266
<hr/>	
TTC TGT GAA CTC CAT GAG CTG AAA AAA TTC AGA AAA ATG TTC TAT GTG AAG AAG GAC	855
F C E L H E L K K F R K M F Y V K K D	285
<hr/>	
AAG GAC GAG GAT CAG GTG CAC ATC ATA GAG CAT GAC CAA CTG TCC TTC TCC TCG ATC	912
K D E D Q V H I I E H D Q L S F S S I	304
<hr/>	
ACA GAC CAG GCA GCT GGC ATG AAA GAG GAC CAG AAG CAA AAT GAG CCT TTT GTG GCC	969
T D Q A A G M K E D Q K Q N E P F V A	323
<hr/>	
ACC CAG TCA TCT GCC TGC GTG GAT GGC CCT GCA AAC CAT TGA gcgtaggattgttcatt	1030
T Q S S A C V D G P A N H *	337
atgcttagagcaccagggtcagggtcaaggaagaggcttaagtatgttcattttatcagaatgcggaaaaaa	1106
ttatgtcacttaagaaatagctactgtttcaatgtcttattaaaaacaacaaaaagacacatggaacaaag	1182
aagctgtgacccagcaggatgtctaatatgtgaggaaatgagatgtccacctaaaattcatatgtgacaaaatta	1258
tctcgaccttacataggaggagaatacttgaaggcagtatgtctgtggtagaaggcagatttatactttact	1334
ggaaactttggggttgcatttagatcatttagctgtatggctaaatagcaaaatttatatttagaagcaaaaaaaa	1410
aaagcatagagatgtgtttataatagttatgttactgtactgggtcatgtaccacccaaaatgatttttg	1486
gagaatctaagtcaaaactcactattataatgcattaaactatgtacatataaagtataaatatgtt	1562
tatattctgtacatatggtttaggtcaccagatcctagtgttagttctgaaactaagactatagatattttgttct	1638
tttgatttctttataactaaagaatccagagttgctacaataaaaataagggaataataaaaaaaaaaaaaaa	1712

FIG. 1B-2

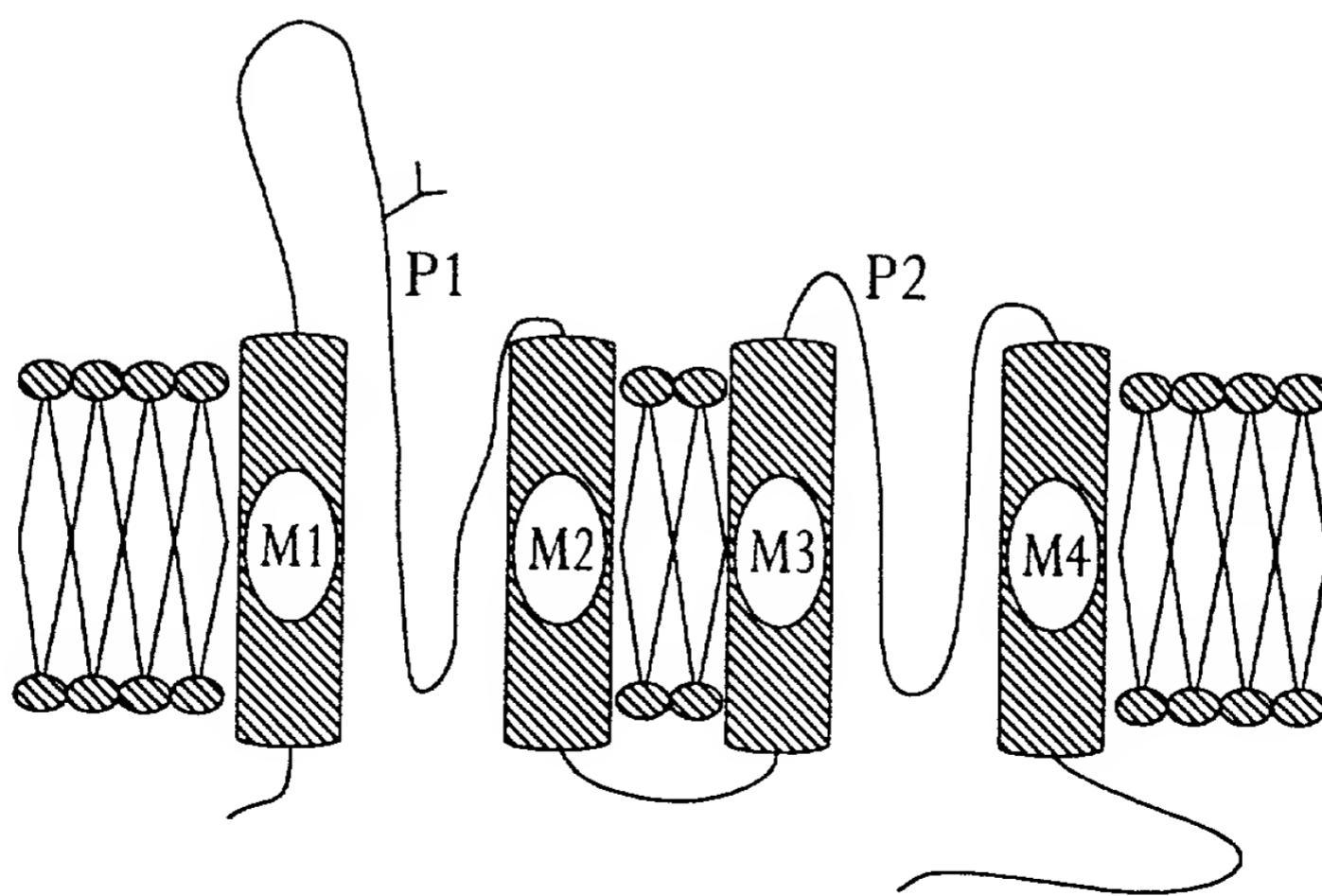
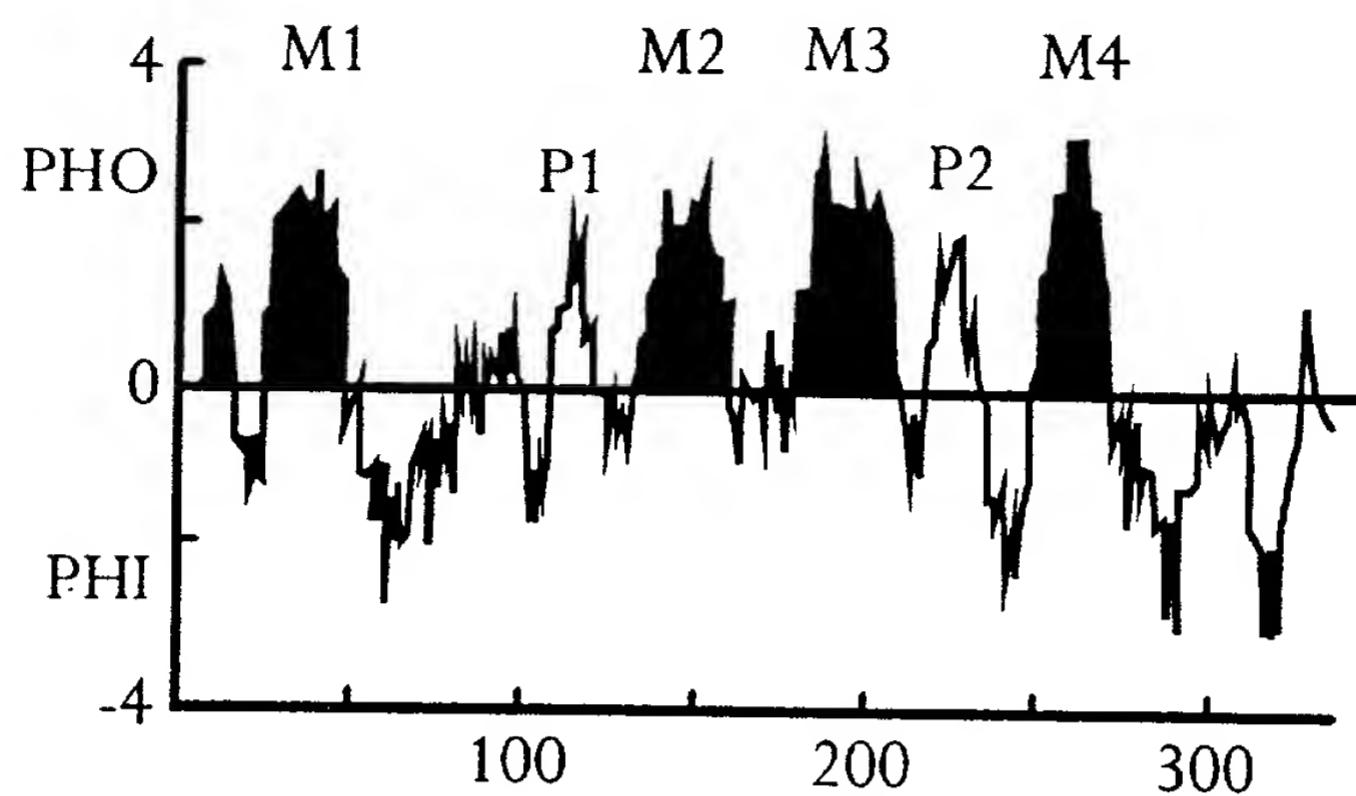


FIG. 1C

1 14 27

TWIK-1 P1	FTSALFFFASTVLISTTGYGHTVPLS	SDGG
TWIK-1 P2	ELESEFYFCEFISI	STIGLGDYVPGE
TOK1 P2	YFNCIYFCE	I
TOK1 P1	CLLT	EGYGDYAPRTGAG
Slo	YGNALYFECTIVS	LLTVGLGDT
Shaker	YWTCVYELIVTM	PKSVGA
Shab	MSTVGYGDVY	CETVLG
Shal	IPDAFWWWAVVT	MTTVGYGDMTPVGF
Shaw	MTTVGYGDMTCPTT	ALG
KAT1	IPAAFWYTI	TVGYGDMVPETIAG
AKT1	VTM	PLGLIWWAIVT
eag	TTGYGDMAPKTYI	G
ROMK1	YVTALYWSIT	TTTGYGDFHAENPRE
IRK1	YVTSMYWSIT	TTLTTVGYGDTHPVNTKE
GIRK1	YVTALYFEMTCMTS	VGEGNVAAEETDNE
	MTSAFLESLETQVTI	GYGFRFVTEQCA
	ETAAFLESIETQTTI	GYGFRCVTDEC
	EPSAFLEFFIETEATI	GYGYRYITDKCP

FIG. 2A

TWIK-1	1	MLOSEAGSSCVREVE-----RHREAWCF--GE-----LVLGY
f17c8	1	MYTDEGEYSGDTDHGGSIMQKMSPNTRQNFRQNVVVVCLSAATL--
M110-2	1	MTVSMEENSKEOMISATSKDKKVATDRSLLNKYHLGPLAHTGIVLSC
TWIK-1	31	LEYLMFGAVVFSSVLEPYEDLLRQE-----LRKLKRRFLEEHEC---L
f17c8	47	LVENLIGAGIE-----YLAETQNSSES
M110-2	49	VTYALGGAYEFLSIEHP-EELKRREKAIREFQDLKQOFMGNITSGIEN
TWIK-1	71	SEOOLEQFLGRVD-----EASNYGVSVISNASGNWNW-----DFTSALE
f17c8	69	LNENSEV--SKCLHNLPIGGKITAEMKSKLGKCLTKSSRIDGFGKAIE
M110-2	96	SEQSEEFYTKLELMLEDANAHAFYFFLNRETPKDMW-----TFSSALV
P1		
TWIK-1	110	FASTVVESTIGYGYHTVPESDGGKAFCTN-YSVIGTPFTLFRATAVVORI
f17c8	115	FSWTELYSTVGYGSEYPHSTLGRYLTIF-YSLLMIPVFEAFKFEFGTEL
M110-2	142	FTTTTVIPVGYGYIEPVSAYGR-MCLLIAVALLGIPITLVTMADTGKFA
TWIK-1	157	TVH---VTRRPVL-----YEHFRWGESKQVATVHAVLLGFYTVSCFF
f17c8	162	AHFLVVVSNRTRLAVKKAYYKES-QNPEAETPSNSLQHDYIIFLSSN
M110-2	189	AQL---VTR-----W-EGDNNMAIPAAIFV-----CLL
P2		
TWIK-1	197	FI-PAAVFS---VL--EDDWNELESFYFCFESSTIGIGDYVPGEYGN
f17c8	209	LICSESSLSSSAFFSSIENISYLSWYFGETTMFLIGIGDIVPTN---
M110-2	213	FAYPLVVGFF---LICSTSNTYLDHSVYFSLTSIFTIGFGDLTP-----
TWIK-1	239	QKFRECYKIGETCYLELGLIAMEWVLETFC----ELHELKFR----
f17c8	254	-----EWFGSGYCMFLFLISDVLSNQIFYFCQARVRYFFHLARKIL
M110-2	253	----DMNVTHMVLPLAVGVILVTTLDIVA---AEMIDRVHYMGRHVG
TWIK-1	278	-----KMFYVKKDKDEDQVHIEHDQI---SFSSSETDOAAGMKEED
f17c8	295	LLRE-EDDGFQLETTVSLDHEPIINSQCMPSL---VLDCEKEELOND
M110-2	294	AKAKELAGKMFQLAQSLNMKQGLVSGVGQLHALARFGMLVGREENDKQ
TWIK-1	315	QKQNEPFVAT-----Q\$SACVDGPANH---
f17c8	338	EKLISSEST-----
M110-2	342	EDGIIIAFSPDVMDGLEFMDTLSIYSRRSRRSAENSARNLFLS

FIG. 2B

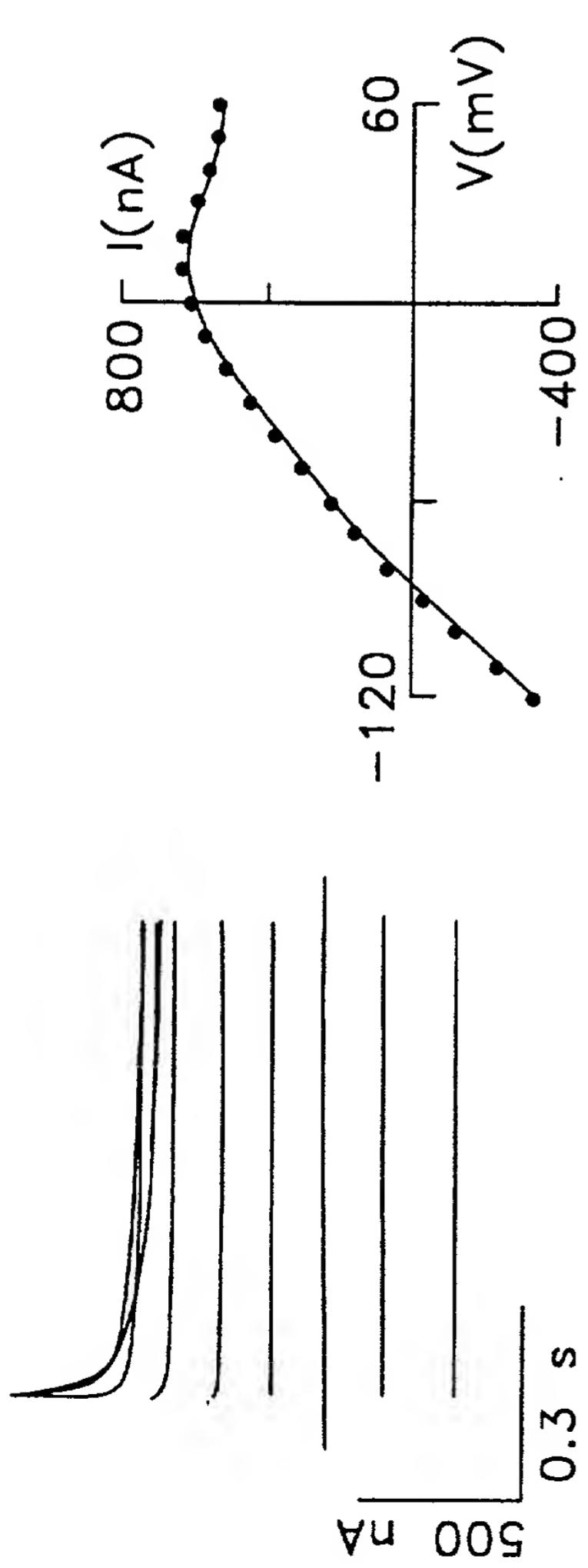


FIG. 3A

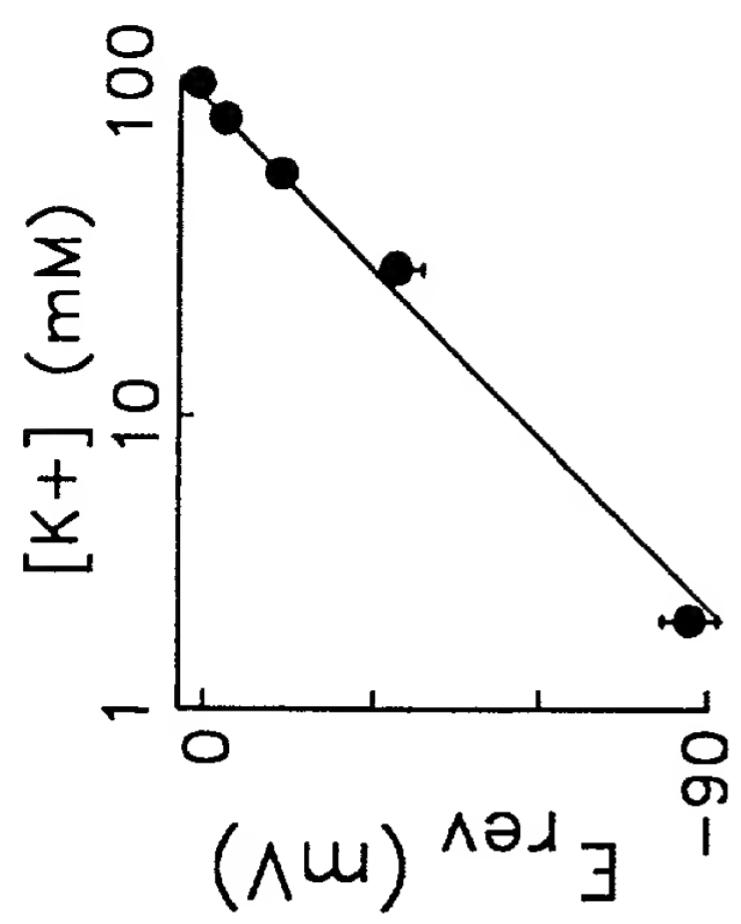


FIG. 3B

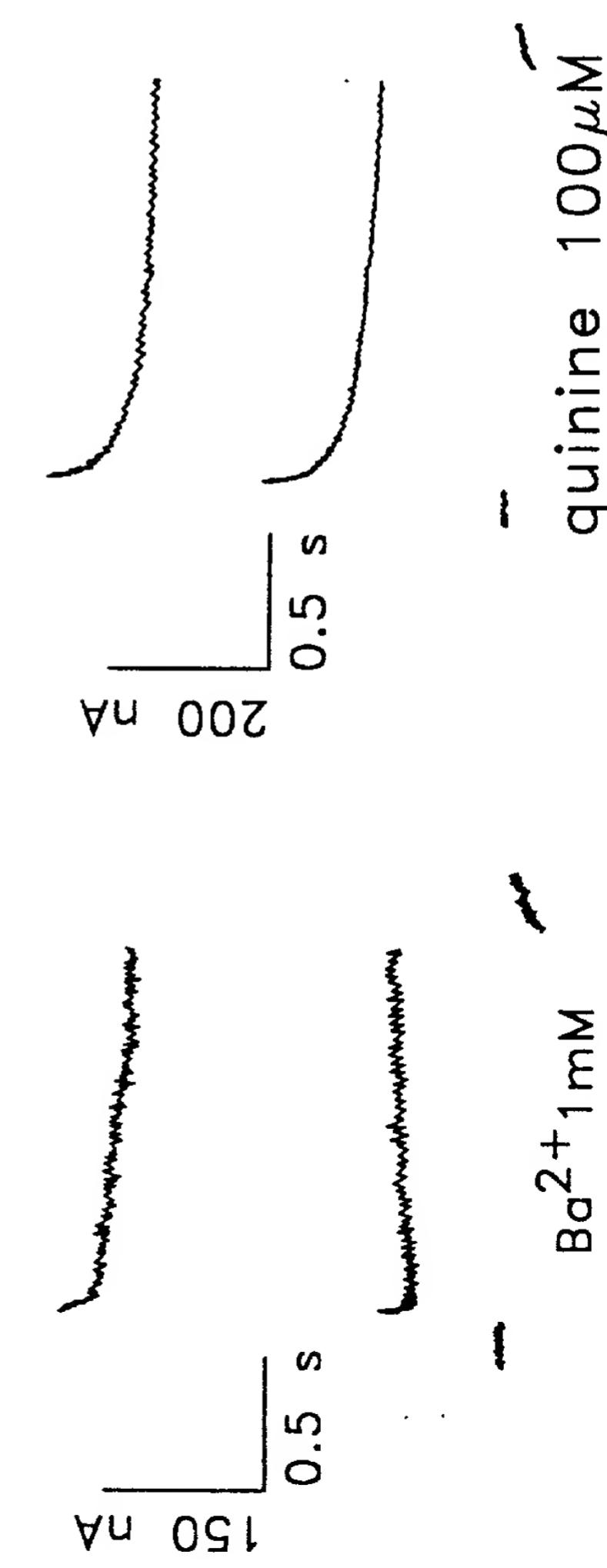


FIG. 3C

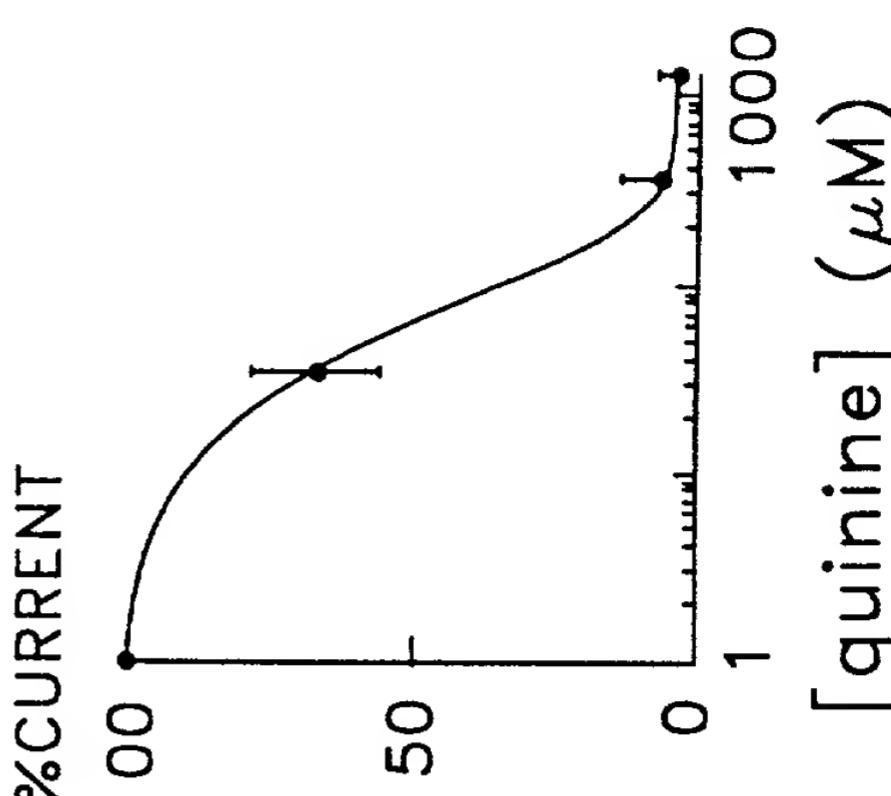


FIG. 3D

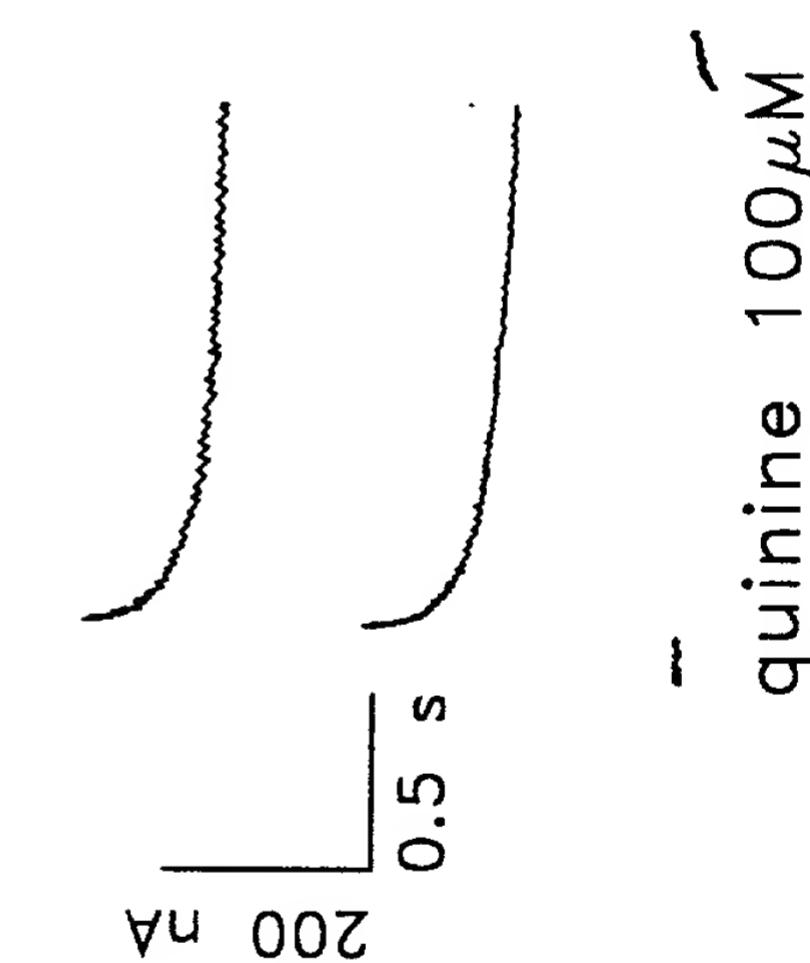


FIG. 3E

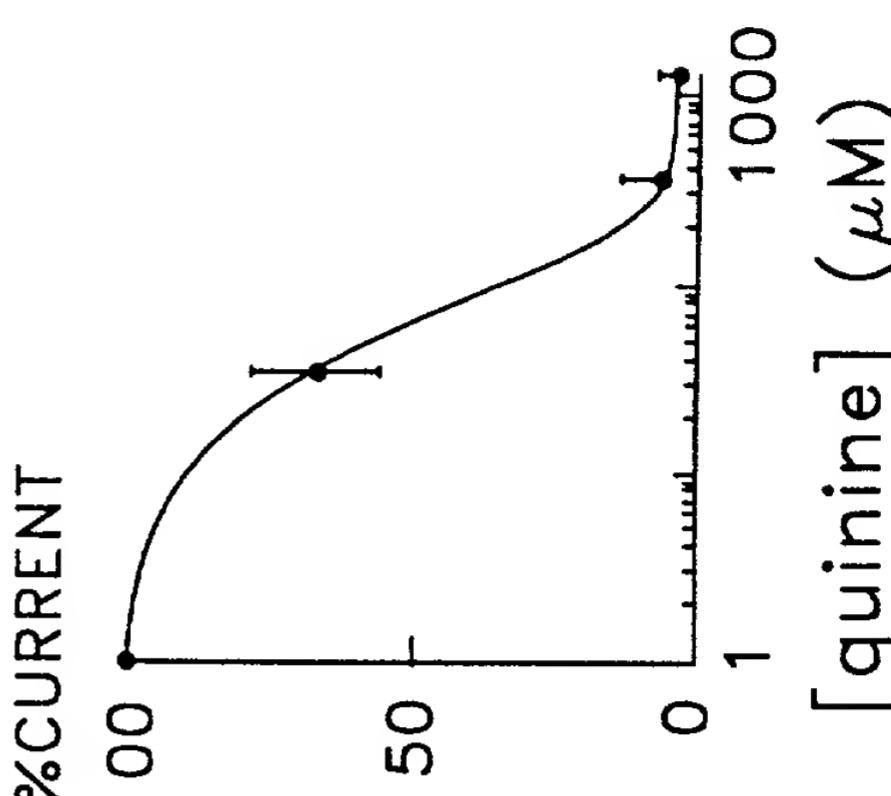


FIG. 3F

FIG. 4A

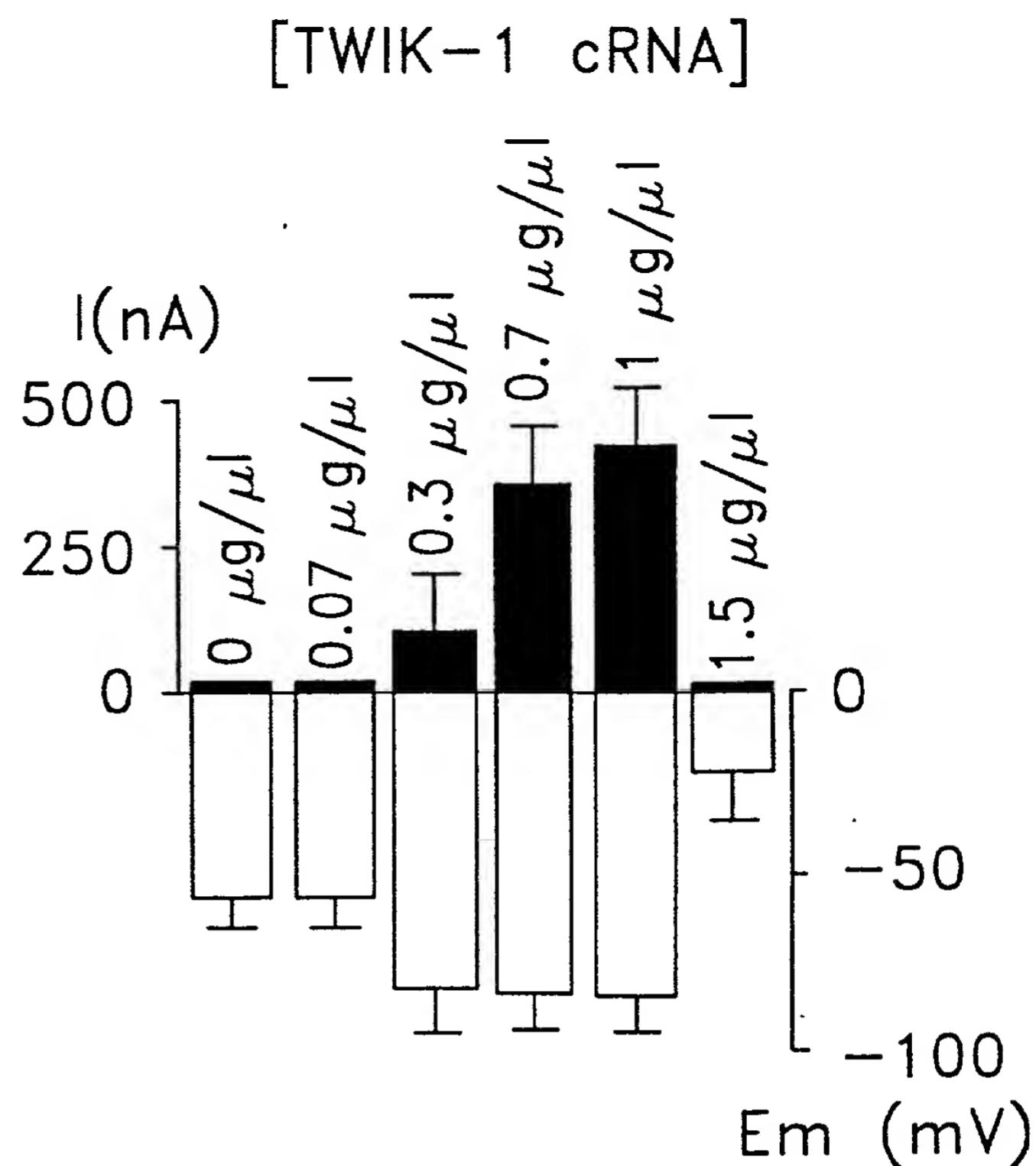


FIG. 4B

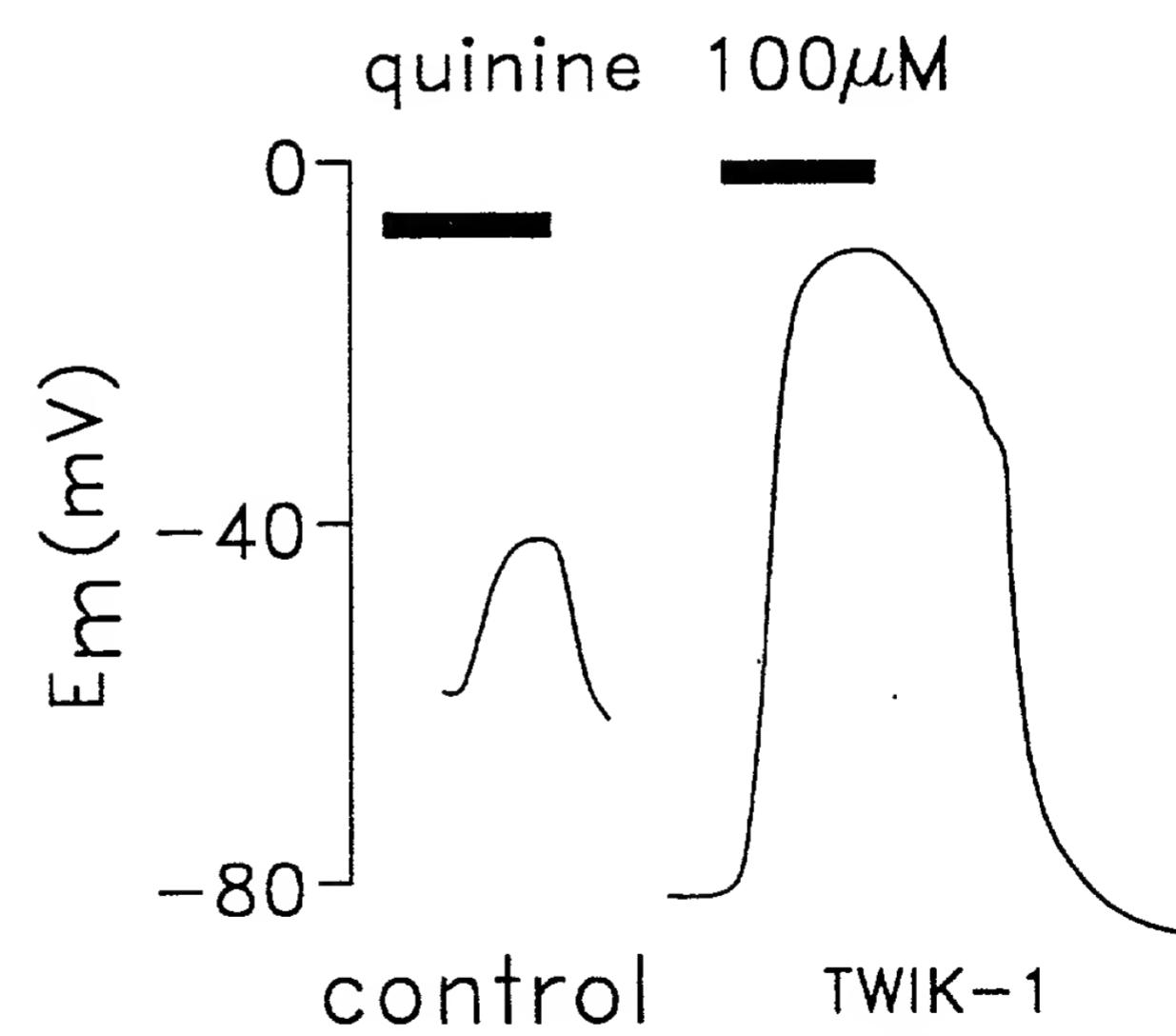
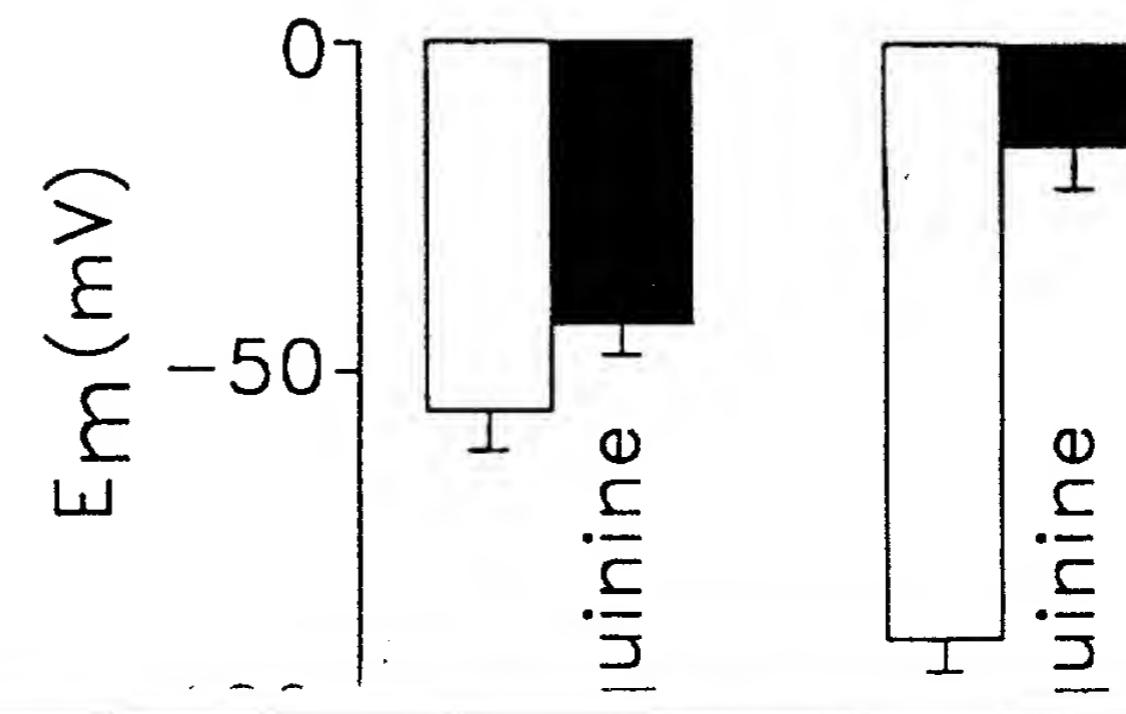


FIG. 4C



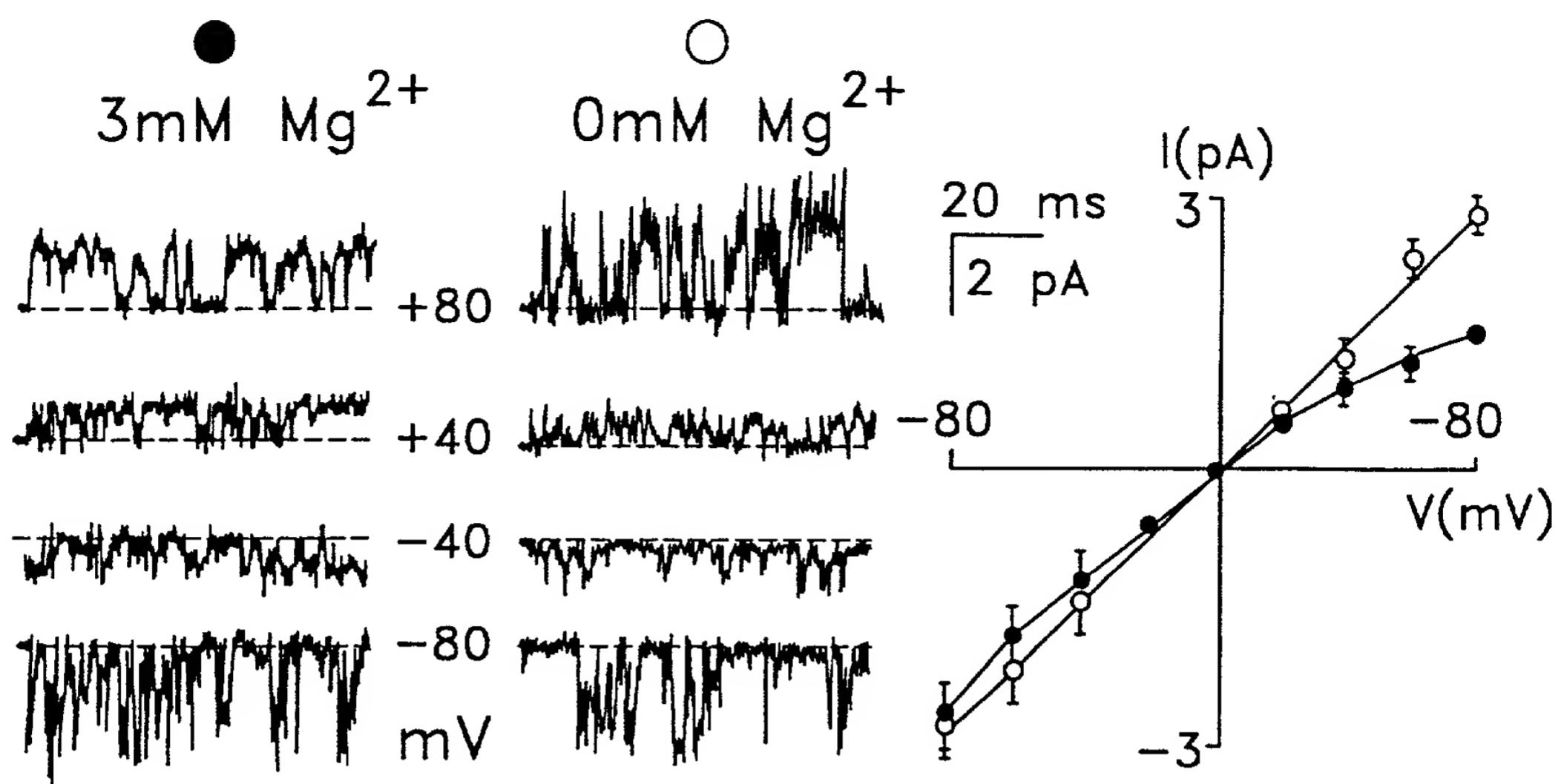


FIG. 5A

FIG. 5B

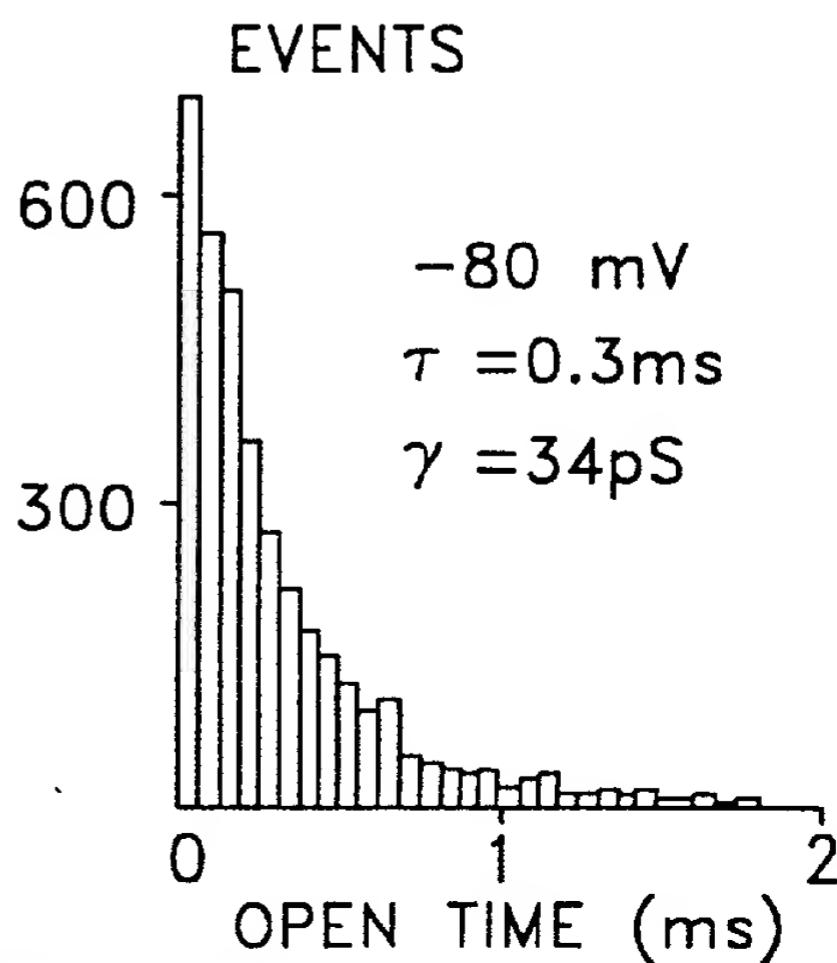
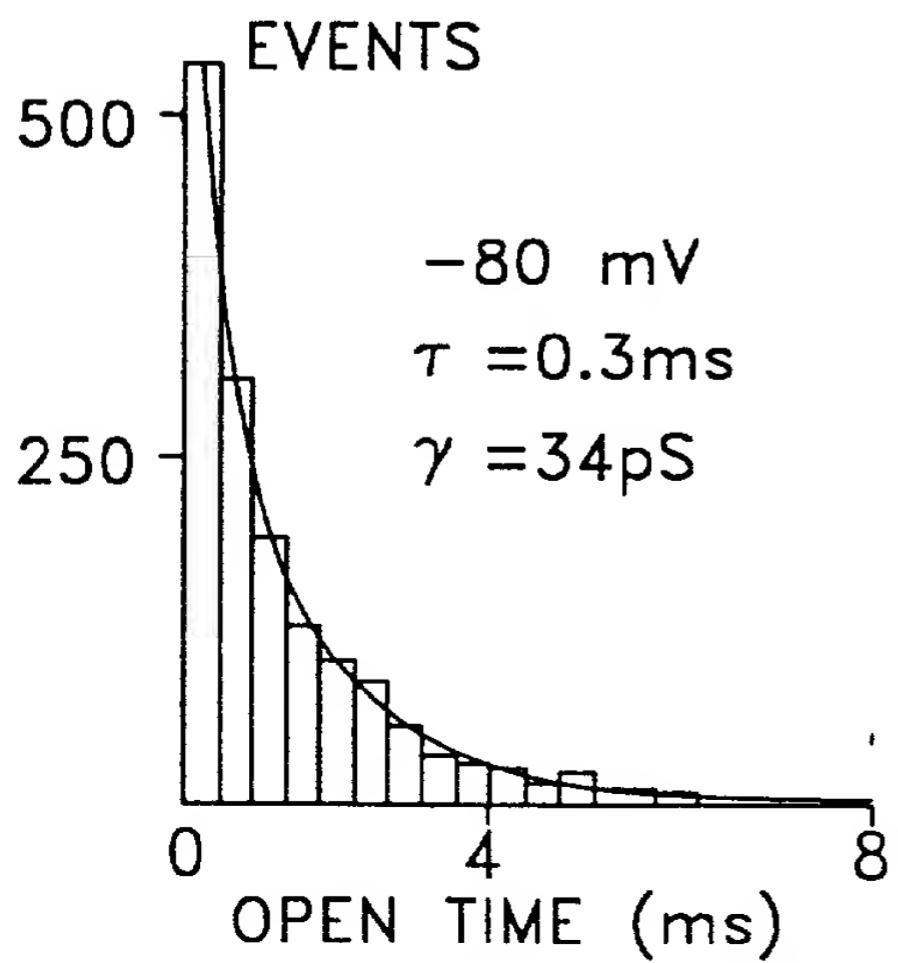
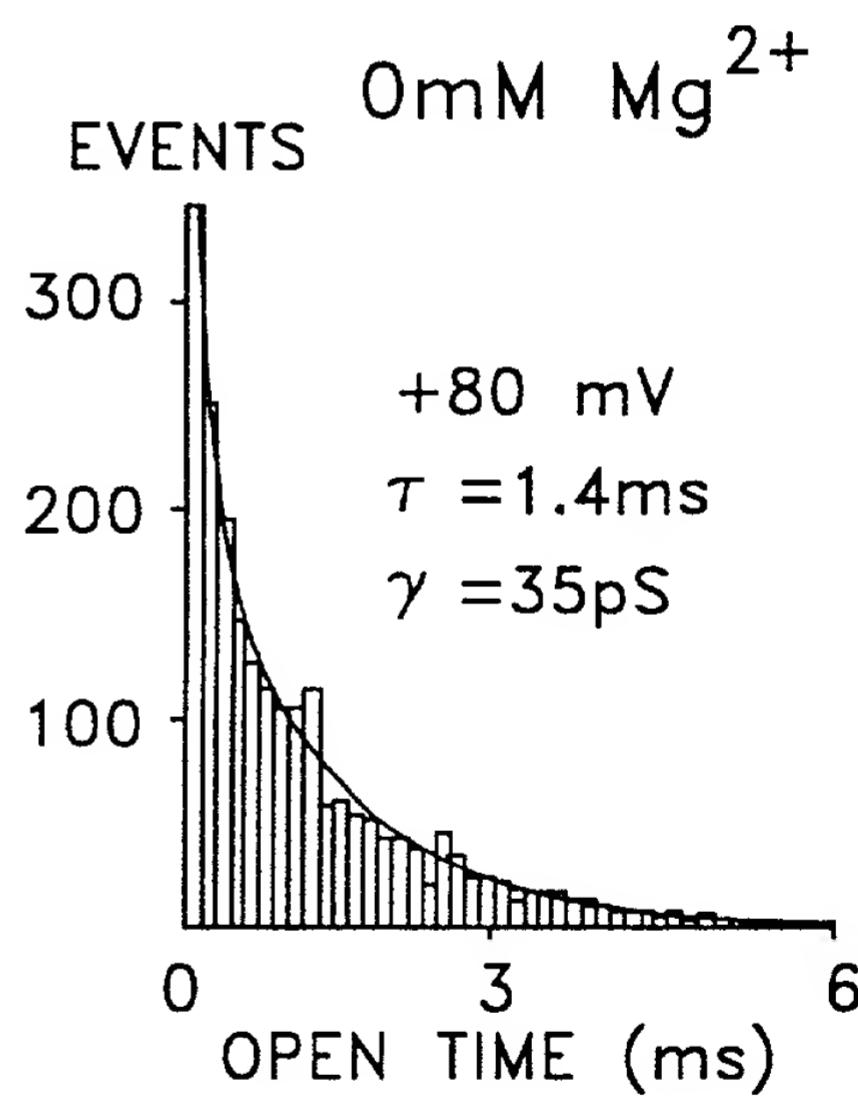
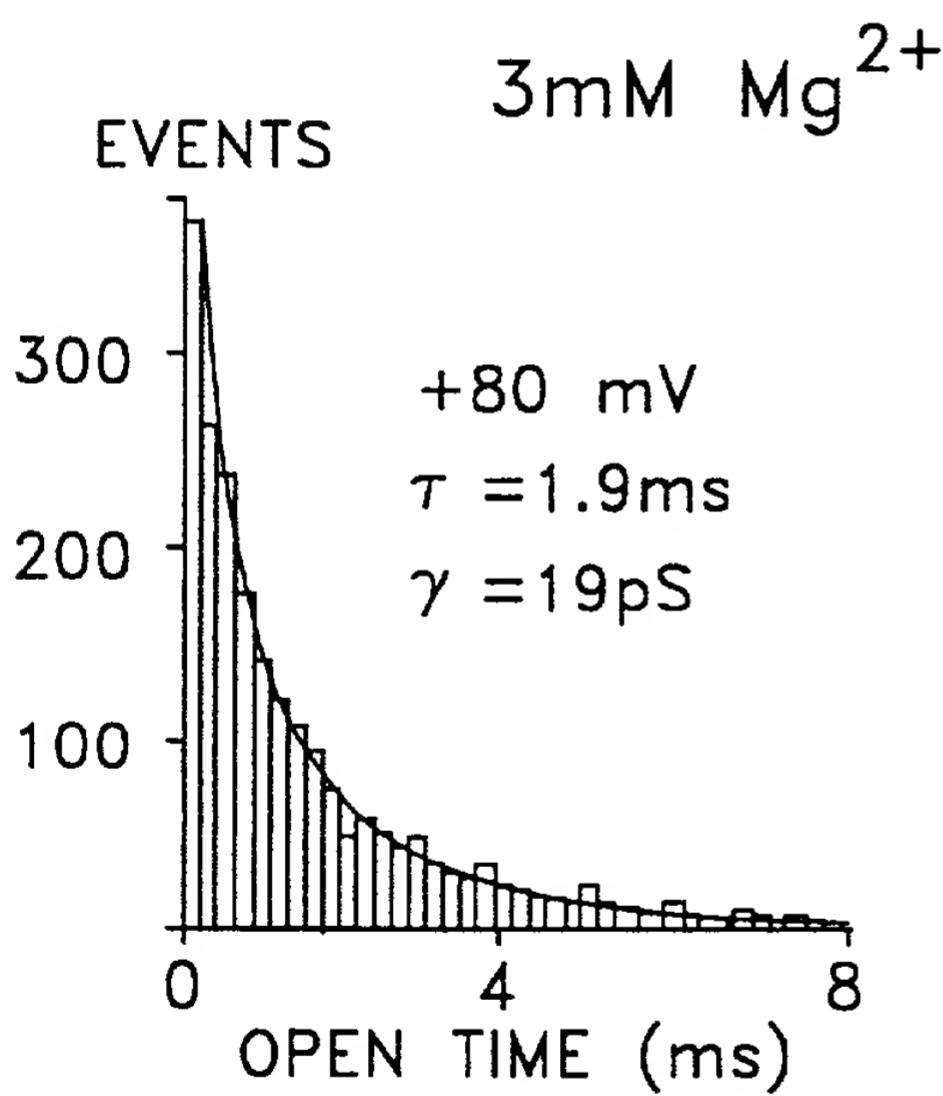


FIG. 5C

FIG. 5D

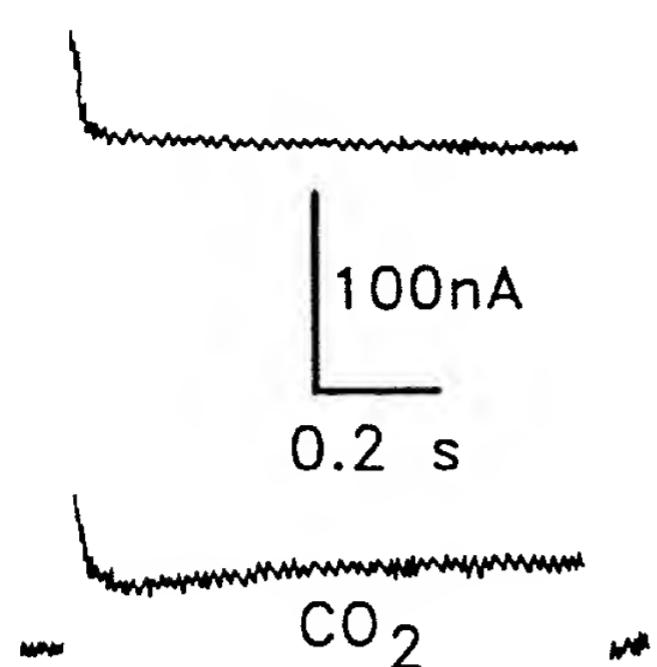


FIG. 6A

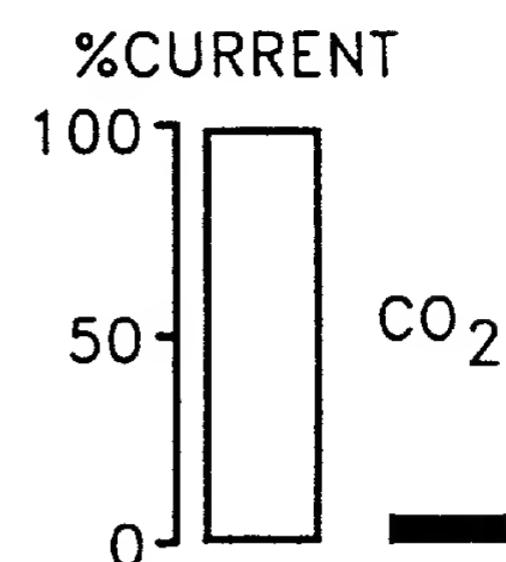


FIG. 6B

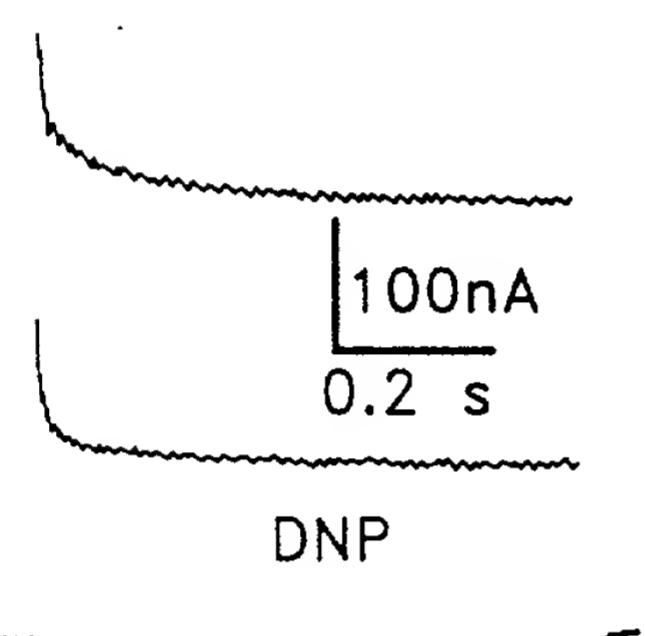


FIG. 6C

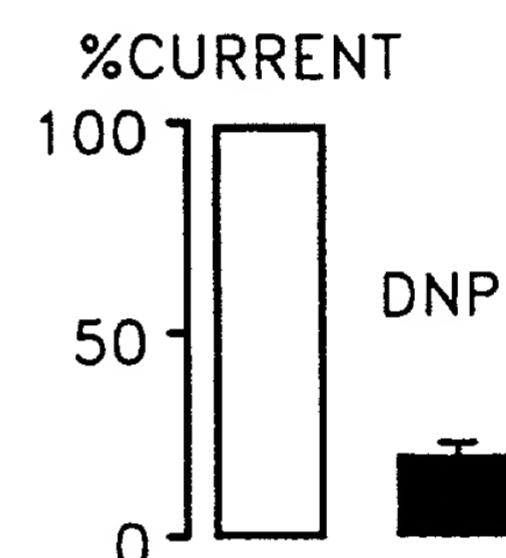


FIG. 6D

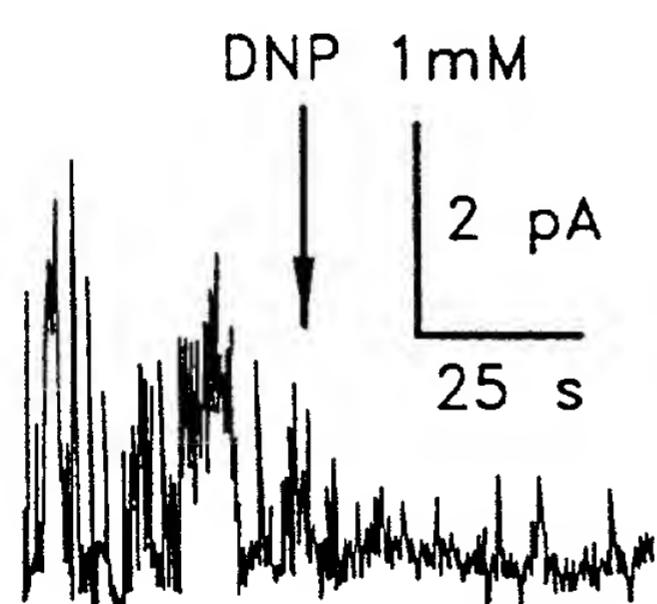


FIG. 6E

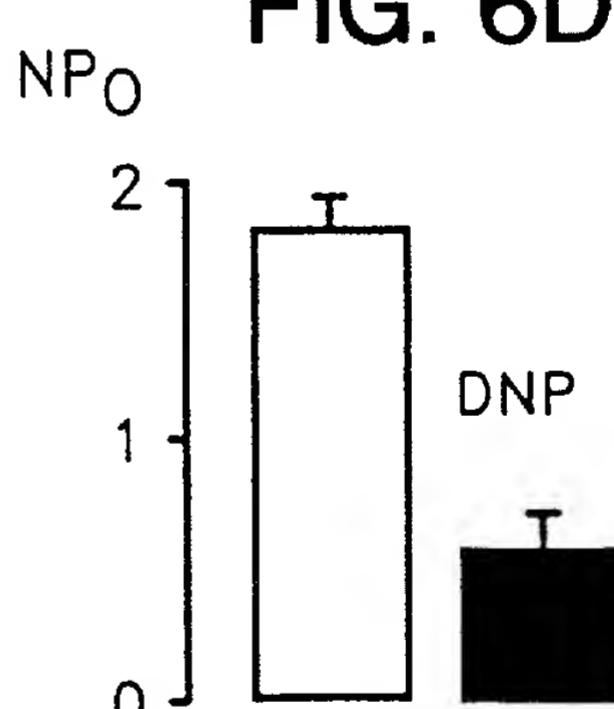


FIG. 6F

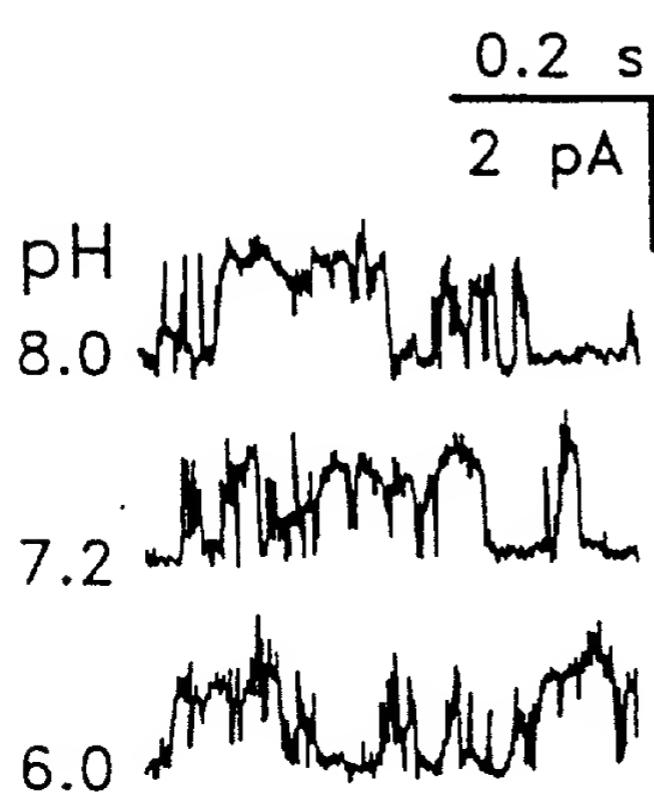


FIG. 6G

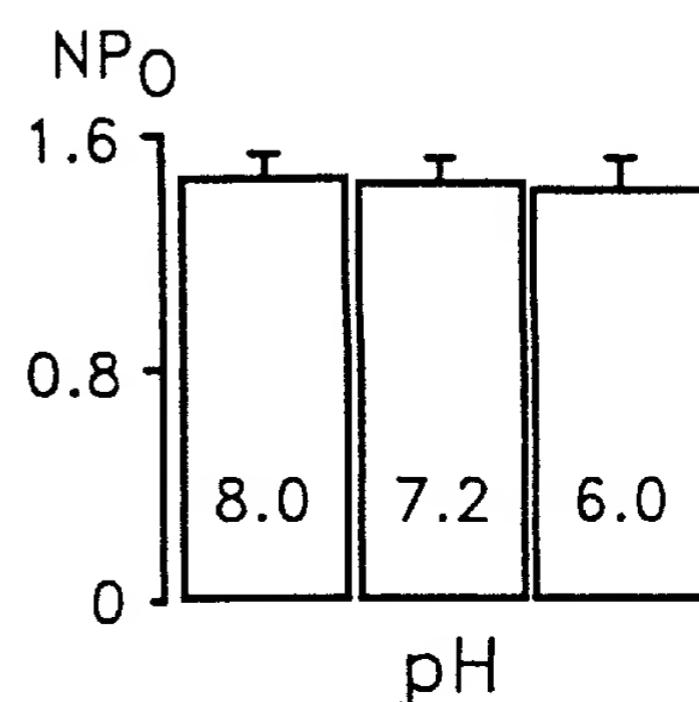


FIG. 6H

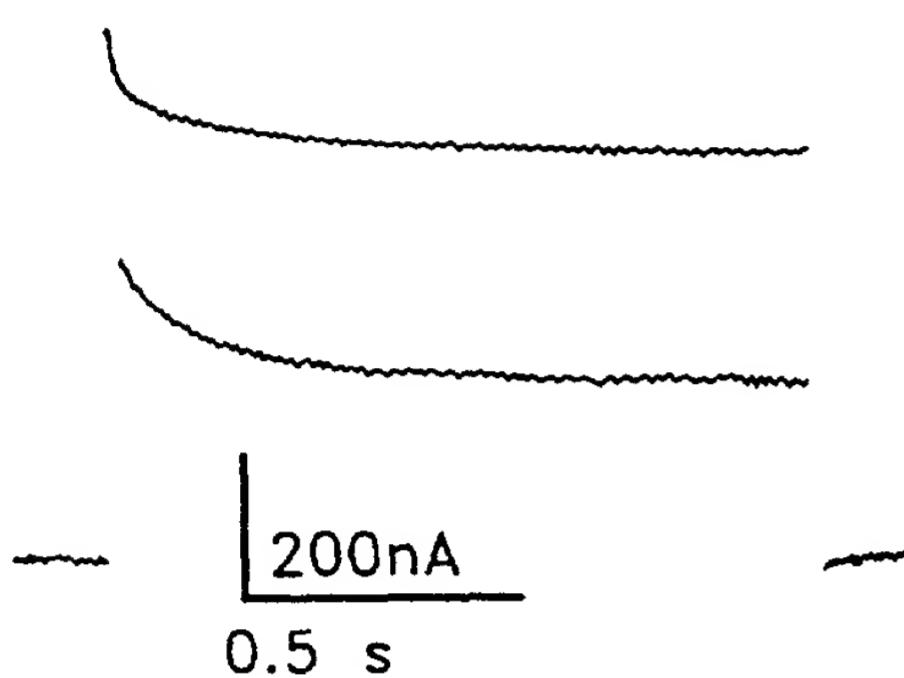


FIG. 7A

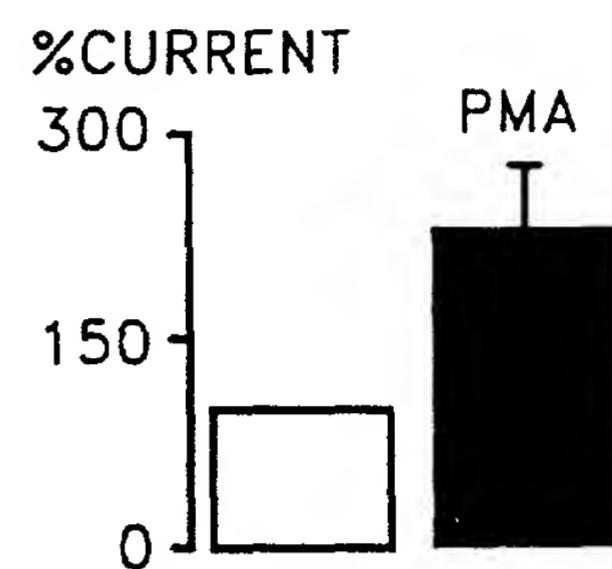


FIG. 7B

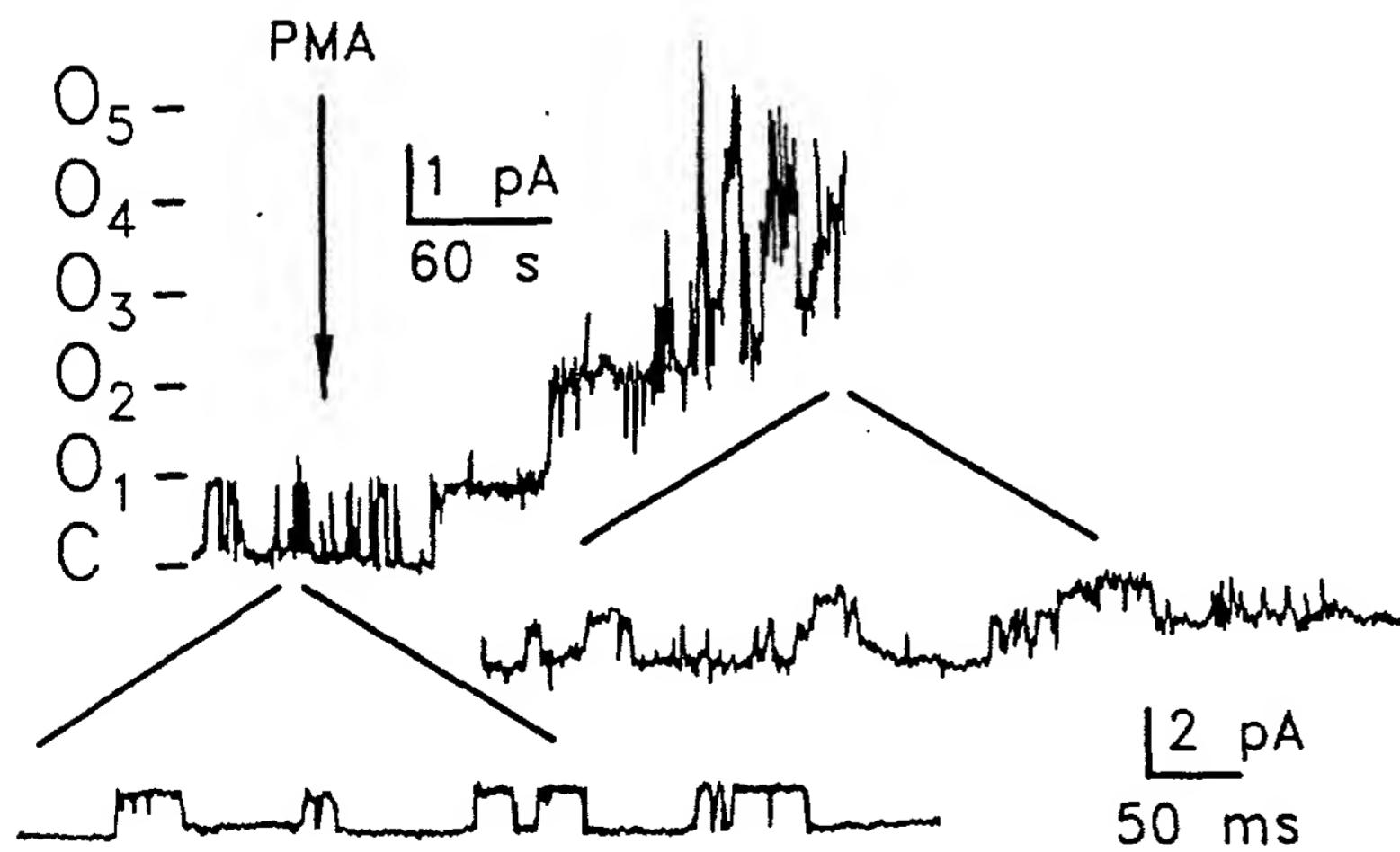


FIG. 7C

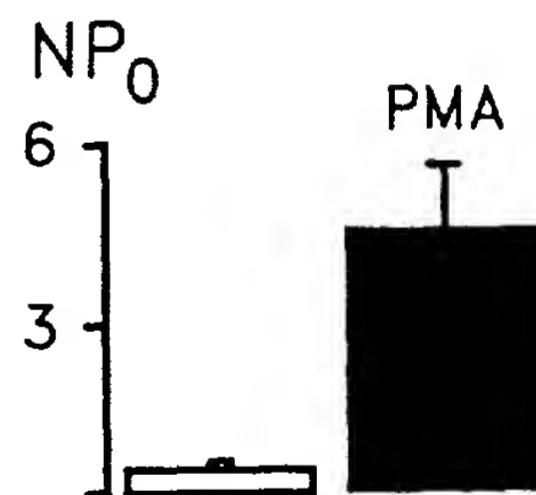


FIG. 7D

tgccctgcgcggatagcggcgagcgcagccatgccccaggccgcctccg -77
 gggcagcagcagcggcggccggggccatgcgcggggccggggccggccggccggggacg -1

ATG	AAG	CGG	CAG	AAC	GTG	CGC	ACG	CTG	GCG	CTC	ATC	GTG	TGC	ACC	TTC	ACC	TAC	CTG	57
M	K	R	Q	N	V	R	T	L	A	L	I	V	C	T	F	T	Y	L	19
E	N	V	R	T	L	A	L	I	V	C	T	F	T	Y	L				
CTG	GTG	GGC	GCC	GCG	GTC	TTC	GAC	GCG	CTG	GAG	TCG	GAG	CCC	GAG	CTG	ATC	GAG	CGG	114
L	V	G	A	A	V	F	D	A	L	E	S	E	P	E	L	I	E	R	38
L	V	G	A	A	V	F	D	A	L	E	S	E	P	E	M	I	E	R	
CAG	CGG	CTG	GAG	CTG	CGG	CAG	CAG	CTG	CGG	GCG	CGC	TAC	AAC	CTC	AGC	CAG	GGC	171	
Q	R	L	E	L	R	Q	Q	E	L	R	A	R	Y	N	L	S	Q	G	57
Q	R	L	E	L	R	Q	L	E	L	R	A	R	Y	N	L	S	E	G	
GGC	TAC	GAG	GAG	CTG	GAG	CGC	GTC	GTG	CTG	CGC	CTC	AAG	CCG	CAC	AAG	GCC	GGC	GTG	228
G	Y	E	E	L	E	R	V	V	L	R	L	K	P	H	K	A	G	V	76
G	Y	E	E	L	E	R	V	V	L	R	L	K	P	H	K	A	G	V	
CAG	TGG	CGC	TTC	GCC	GGC	TCC	TTC	TAC	TTC	GCC	ATC	ACC	GTC	ATC	ACC	ACC	ATC	GGC	285
Q	W	R	F	A	G	S	F	Y	F	A	I	T	V	I	T	T	I	G	95
Q	W	R	F	A	G	S	F	Y	F	A	I	T	V	I	T	T	I	G	
TAC	GGG	CAC	GCG	GCA	CCC	AGC	ACG	GAT	GGC	GGC	AAG	GTG	TTC	TGC	ATG	TTC	TAC	GCG	342
Y	G	H	A	A	P	S	T	D	G	G	K	V	F	C	M	F	Y	A	114
Y	G	H	A	A	P	S	T	D	G	G	K	V	F	C	M	F	Y	A	
CTG	CTG	GGC	ATC	CCG	CTC	ACG	CTC	GTC	ATG	TTC	CAG	AGC	CTG	GGC	GAG	CGC	ATC	AAC	399
L	L	G	I	P	L	T	L	V	M	F	Q	S	L	G	E	R	I	N	133
L	L	G	I	P	L	T	L	I	M	F	Q	S	L	G	E	R	I	N	
ACC	TTG	GTG	AGG	TAC	CTG	CTG	CAC	CGC	GCC	AAG	AAG	GGG	CTG	GGC	ATG	CGG	CGC	GCC	456
T	L	V	R	Y	L	L	H	R	A	K	K	G	L	G	M	R	R	A	152
T	E	V	R	Y	L	L	H	R	A	K	R	G	L	G	M	R	H	A	
GAC	GTG	TCC	ATG	GCC	AAC	ATG	GTG	CTC	ATC	GGC	TTC	TTC	TCG	TGC	ATC	AGC	ACG	CTG	513
D	V	S	M	A	N	M	V	L	I	G	F	F	S	C	I	S	T	L	171
E	V	S	M	A	N	M	V	L	I	G	F	V	S	C	I	S	T	L	
TGC	ATC	GGC	GCC	GCC	TTC	TCC	CAC	TAC	GAG	CAC	TGG	ACC	TTC	TTC	CAG	GGC	TAC	570	
C	I	G	A	A	A	F	S	H	Y	E	H	W	T	F	F	Q	A	Y	190
C	I	G	A	A	A	F	S	Y	Y	E	R	W	T	F	F	Q	A	Y	
TAC	TAC	TGC	TTC	ATC	ACC	CTC	ACC	ATC	GGC	TTC	GGC	GAC	TAC	GTG	GGC	CTG	CAG	627	
Y	Y	C	F	I	T	L	T	T	I	G	F	G	D	Y	V	A	L	Q	209
Y	Y	C	F	I	T	L	T	T	I	G	F	G	D	Y	V	A	L	Q	
AAG	GAC	CAG	GCC	CTG	CAG	ACG	CAG	CCG	CAG	TAC	GTG	GCC	TTC	AGC	TTC	GTC	TAC	ATC	684
K	D	Q	A	L	Q	T	Q	P	Q	Y	V	A	F	S	F	V	Y	I	228
K	D	Q	A	L	Q	T	Q	P	Q	Y	V	A	F	S	F	V	Y	I	
CTT	ACG	GGC	CTC	ACG	GTC	ATC	GGC	GCC	TTC	CTC	AAC	CTC	GTG	GTG	CTG	CGC	TTC	ATG	741
L	T	G	L	T	V	I	G	A	F	L	N	L	V	V	L	R	F	M	247
L	T	G	L	T	V	I	G	A	F	L	N	L	V	V	L	R	F	M	

FIG. 8A

FIG. 8B

1	---	ML QSLAGSSCVR	---	LVERHRS	---
1	MAAPD	LLDPKSAAQN	SKPRLSFSSKPTVL	ASR	VESDSA
1	---	MKR	---	Q	NVR
M1					
TWIK-1	20	---	AWCFG	FLV	GYLLYL
TREK-1	39	IN VMK	NKTV	STIFL	VVVL
TASK	8	---	TLAL	IVCT	ETYLL
TWIK-1	53	RQELR	KLKR	RFLEEH	ECL
TREK-1	77	RTTIVI	QKQ	TFIAQH	ACVN
TASK	38	RQRL	ELRQ	QELR	ARYN
P1					
TWIK-1	91	SVLSN	ASG	-NWN	WDFTS
TREK-1	115	IPLGN	SSN	QVSH	NDL
TASK	75	G	-----	VQ	WREAGSFY
M2					
TWIK-1	128	DGGK	AFCIIY	SVIGIP	FTL
TREK-1	153	EGGK	IFCIIY	ALLGIPL	FGFIL
TASK	104	DGGK	VFCM	GYALLGIPL	TLV
M3					
TWIK-1	164	PVLYF	HIRNG	FSKQV	VAIVH
TREK-1	191	KVEDTF	IKVNVS	QT	KIRI
TASK	139	LUHRAKK	GIGMRRAD	VSMANM	VLI
P2					
TWIK-1	202	VFSV	I	EDD	WNL
TREK-1	229	IFKH	IEG	-WSAL	DAIYFV
TASK	177	AFSH	YEH	-WTF	FOAYY
M4					
TWIK-1	239	QKFRELY	KIGIT	CYLL	IGLI
TREK-1	264	LEYLDFY	KP	VWFW	ILV
TASK	214	Q	TPQY	VAE	SEVY
P3					
TWIK-1	277	RKM	FYV	KKDKD	-
TREK-1	302	KTK	EEV	G	FR
TASK	252	EDE	KR	DAE	HR
P4					
TWIK-1	288	-----	EDQV	H	I
TREK-1	312	-----	AHAAE	WTAN	VTAEF
TASK	290	AAGGGG	FRNV	YAEVL	H
M5					
TWIK-1	313	---	EDQKQ	NEP	FV
TREK-1	337	---	YDKF	Q	RAT
TASK	328	---	IPRD	L	STSDT
M6					
TWIK-1	337	---	-----	-----	-----
TREK-1	371	---	-----	-----	-----
TASK	366	APRSAI	SSV	STGL	HSL

FIG. 9A

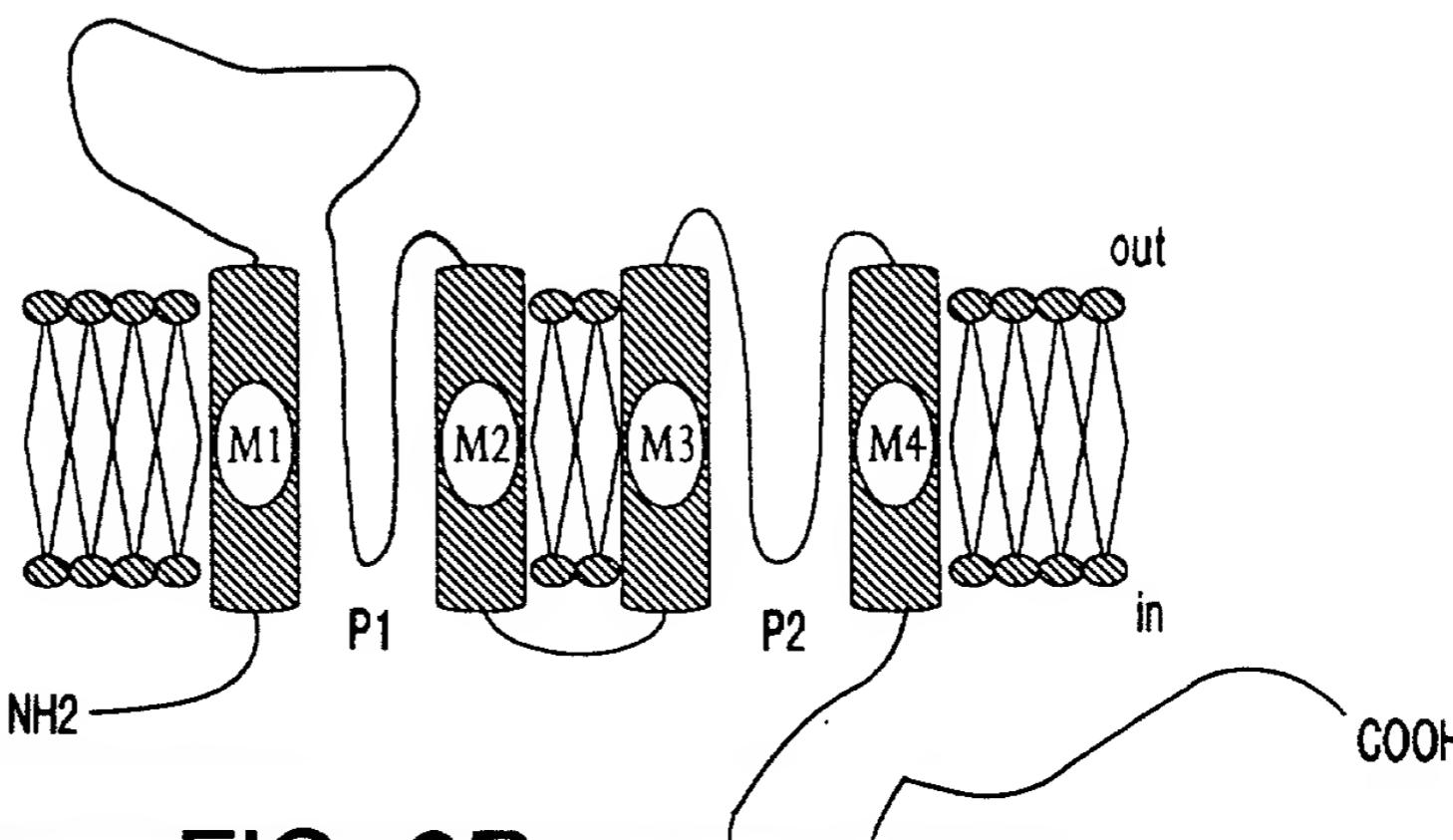


FIG. 9B

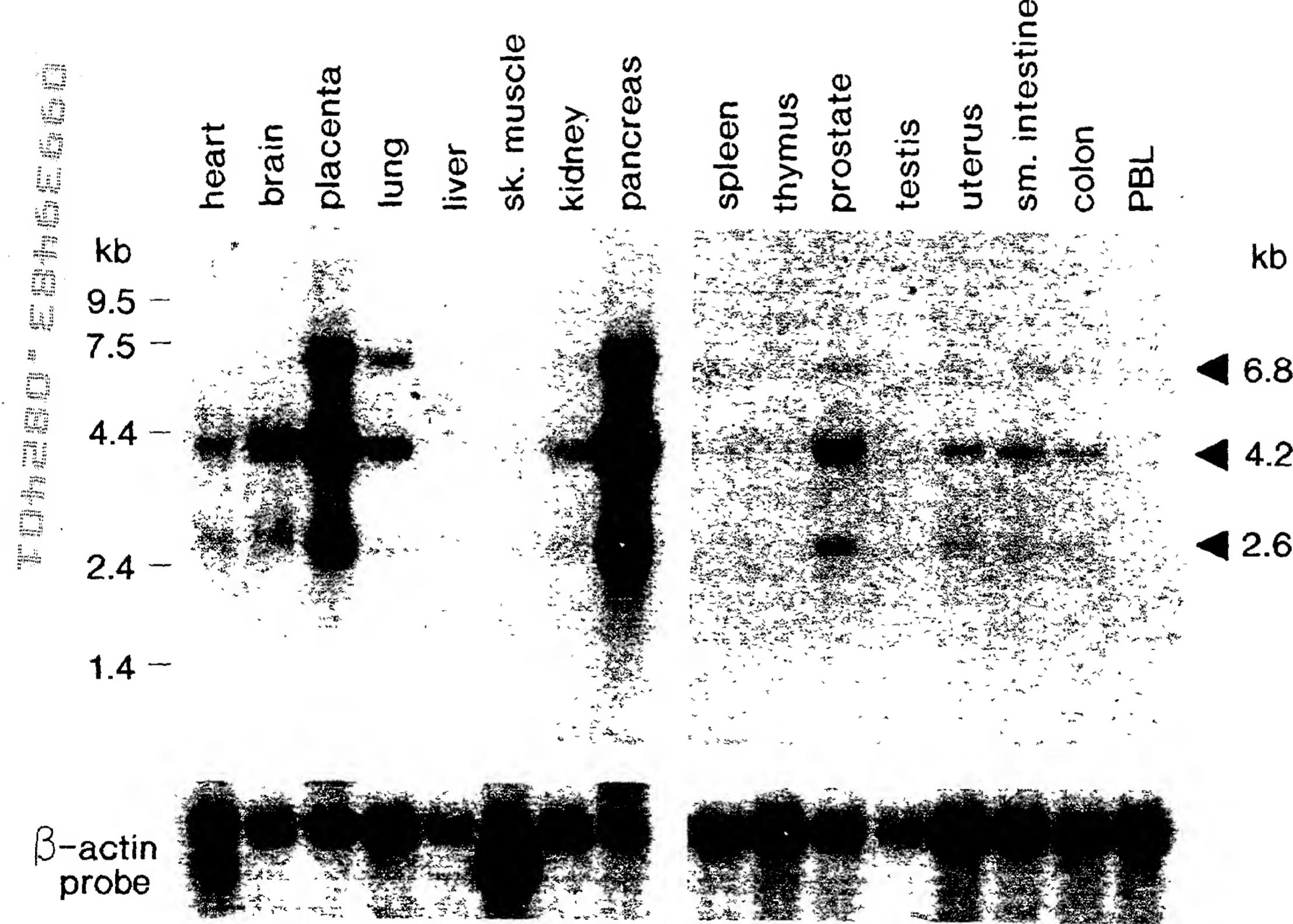


FIG. 10

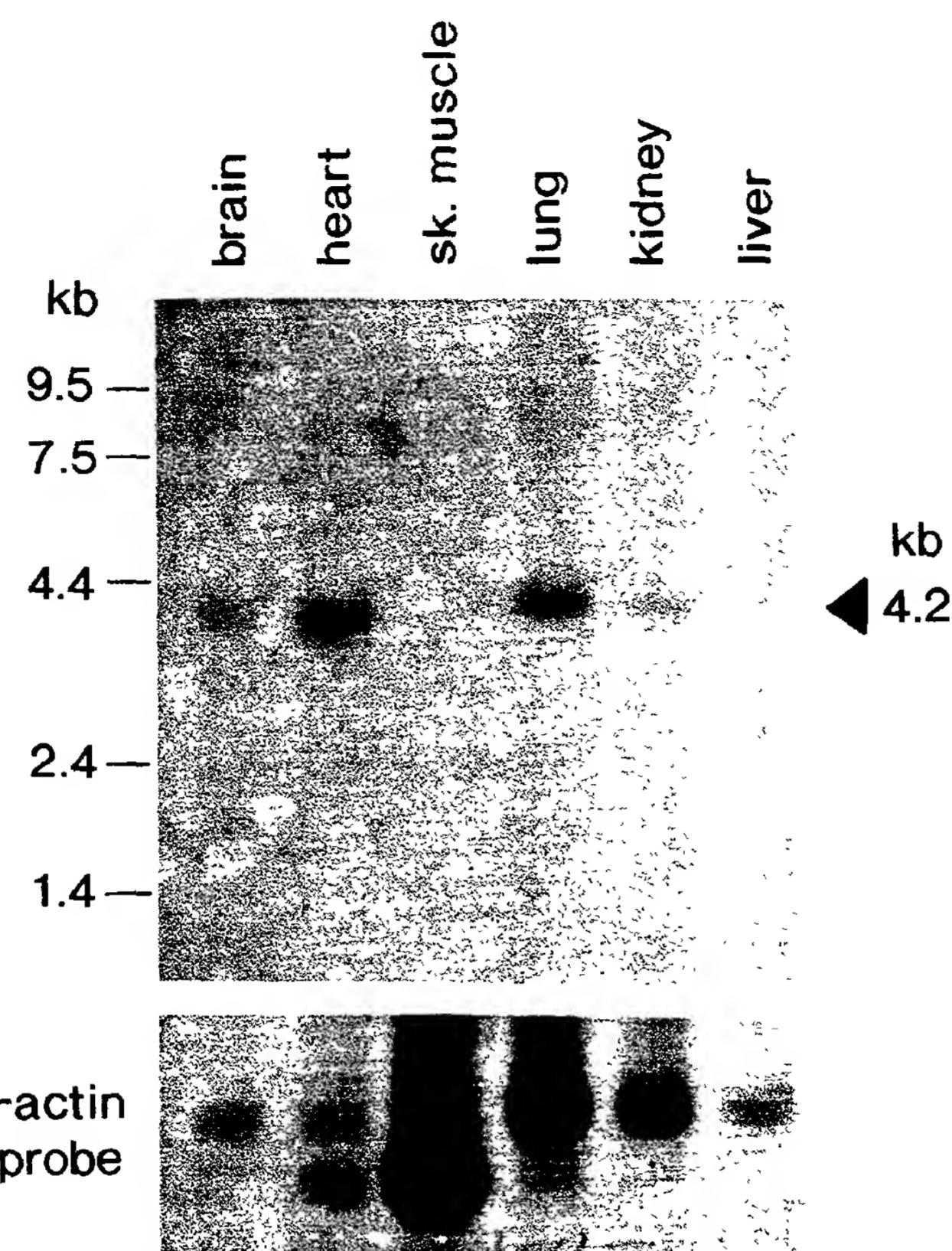


FIG. 11A

FIG. 11B

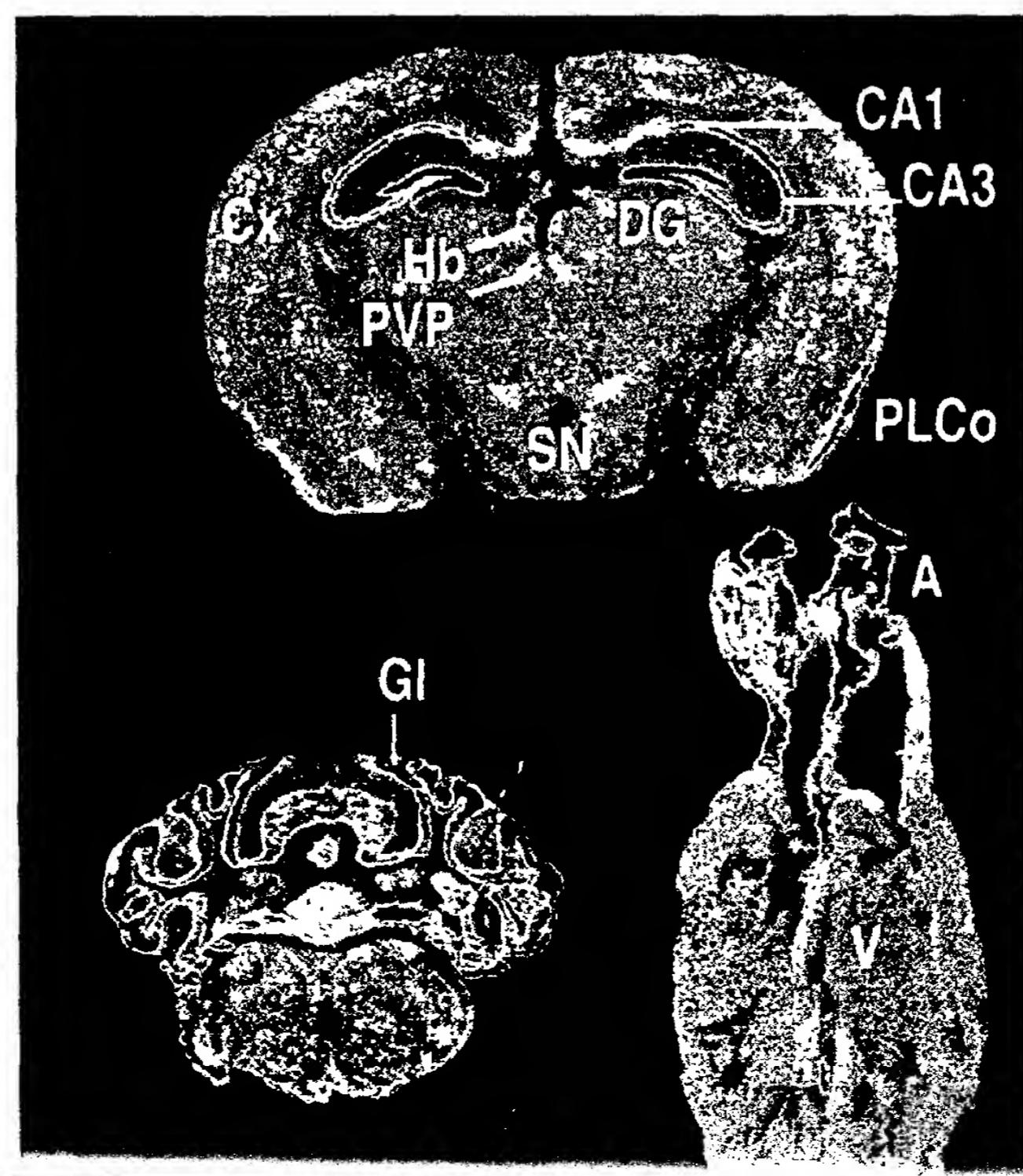


FIG. 11C

FIG. 11D

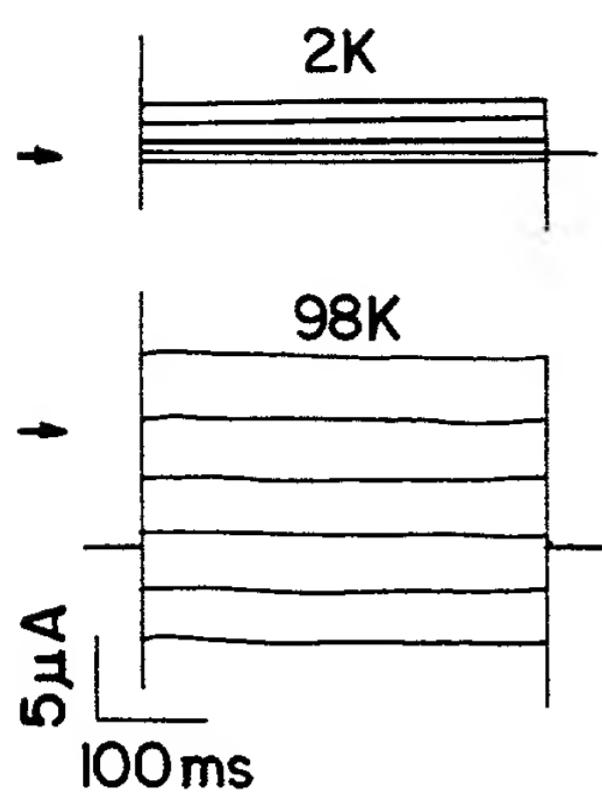


FIG. 12A

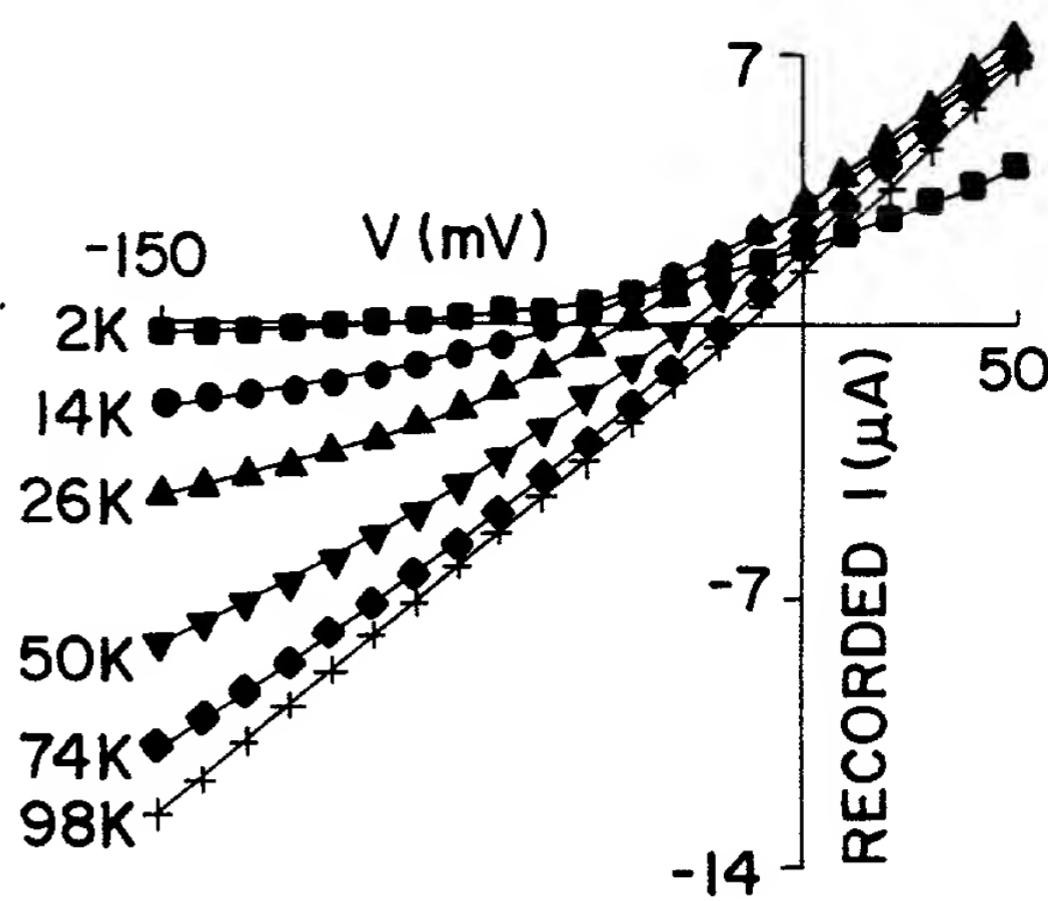


FIG. 12B

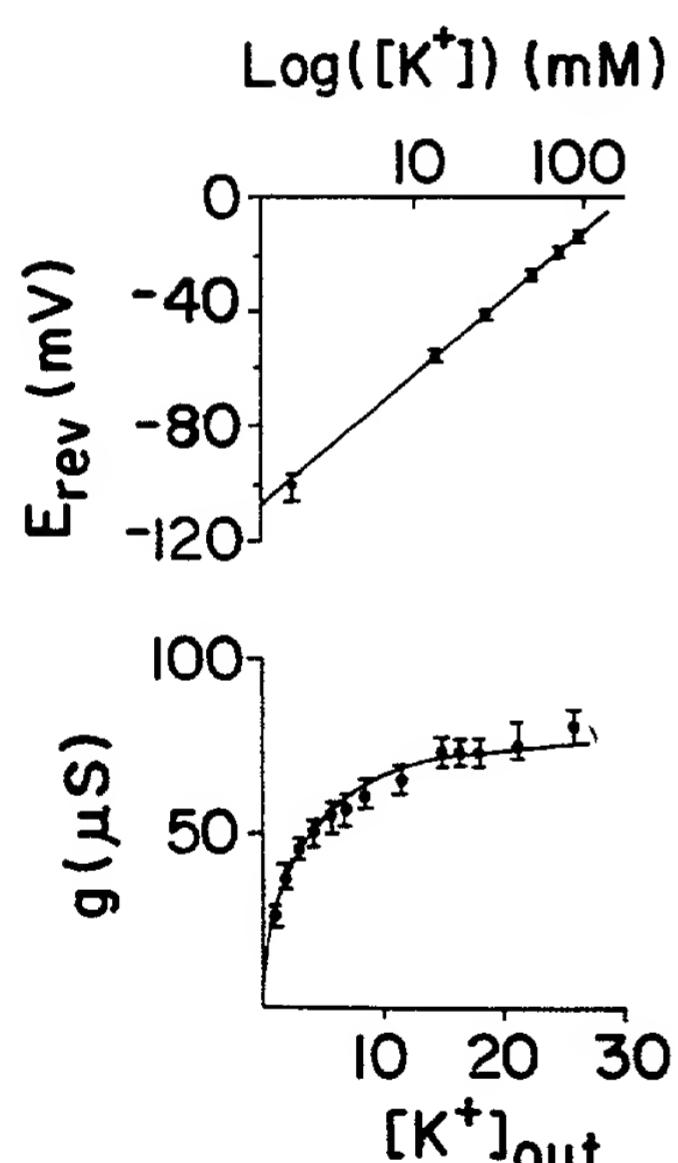


FIG. 12C

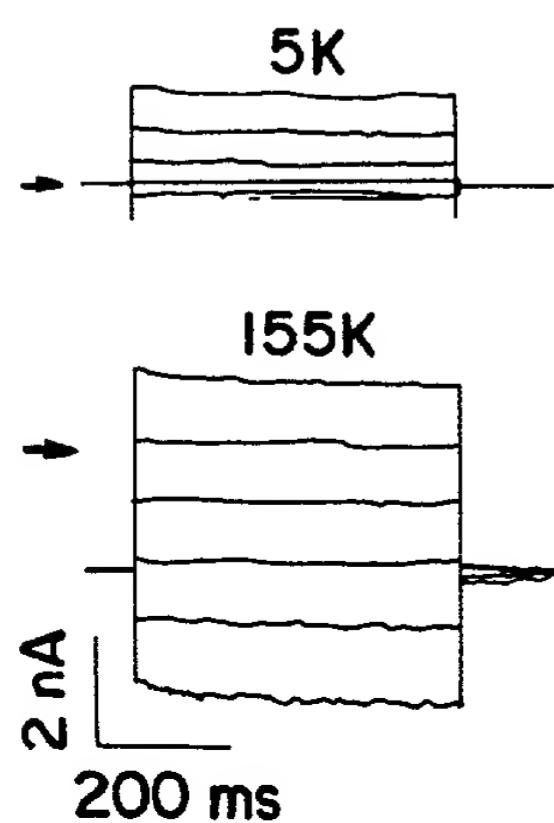


FIG. 12E

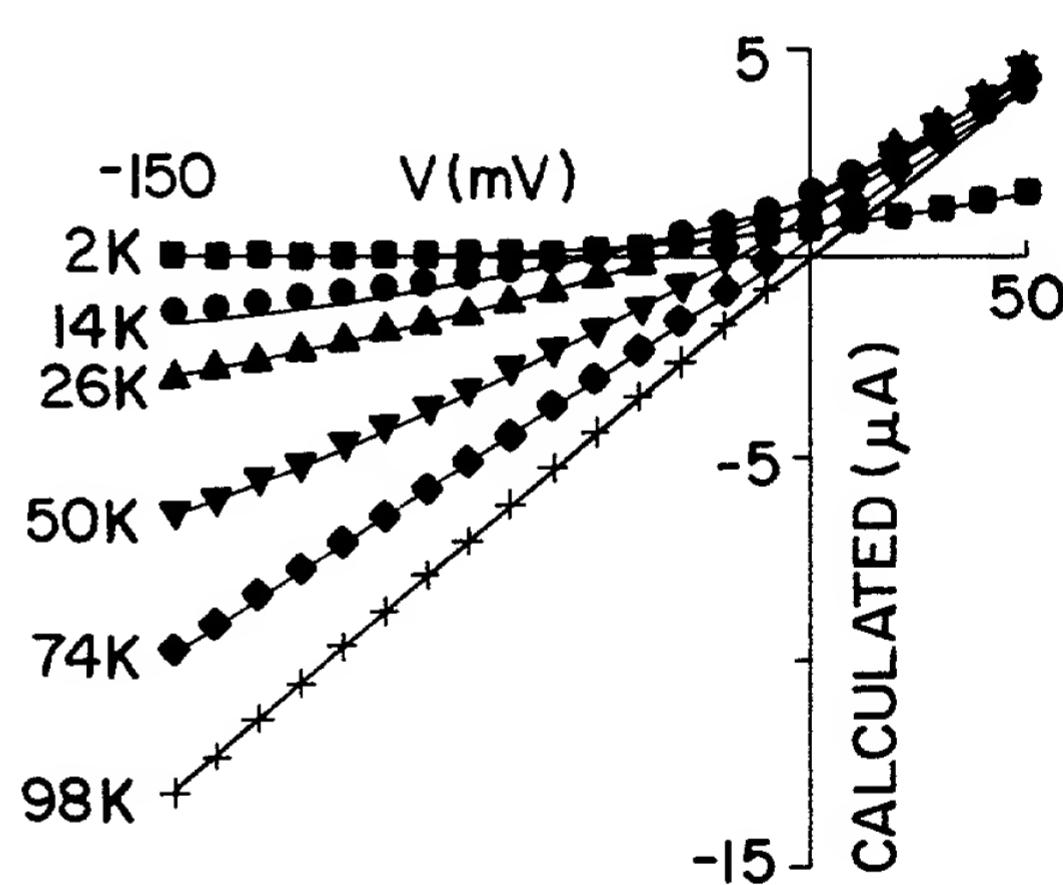


FIG. 12D

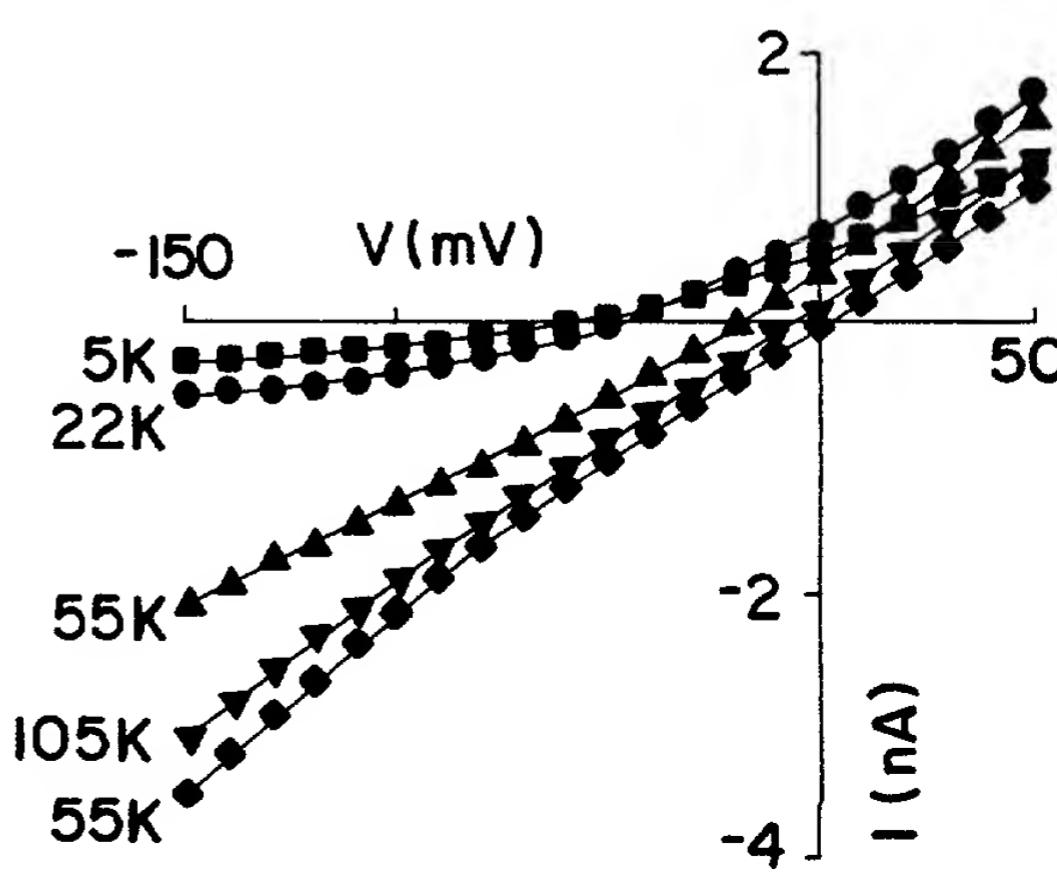


FIG. 12F

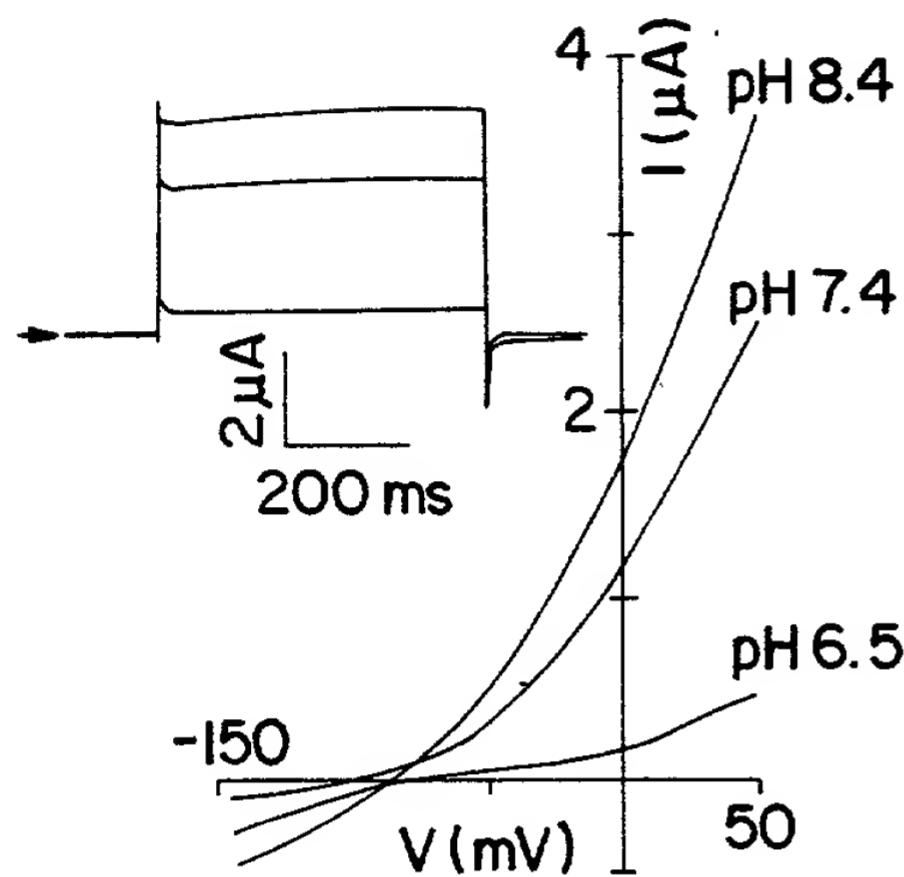


FIG. 13A

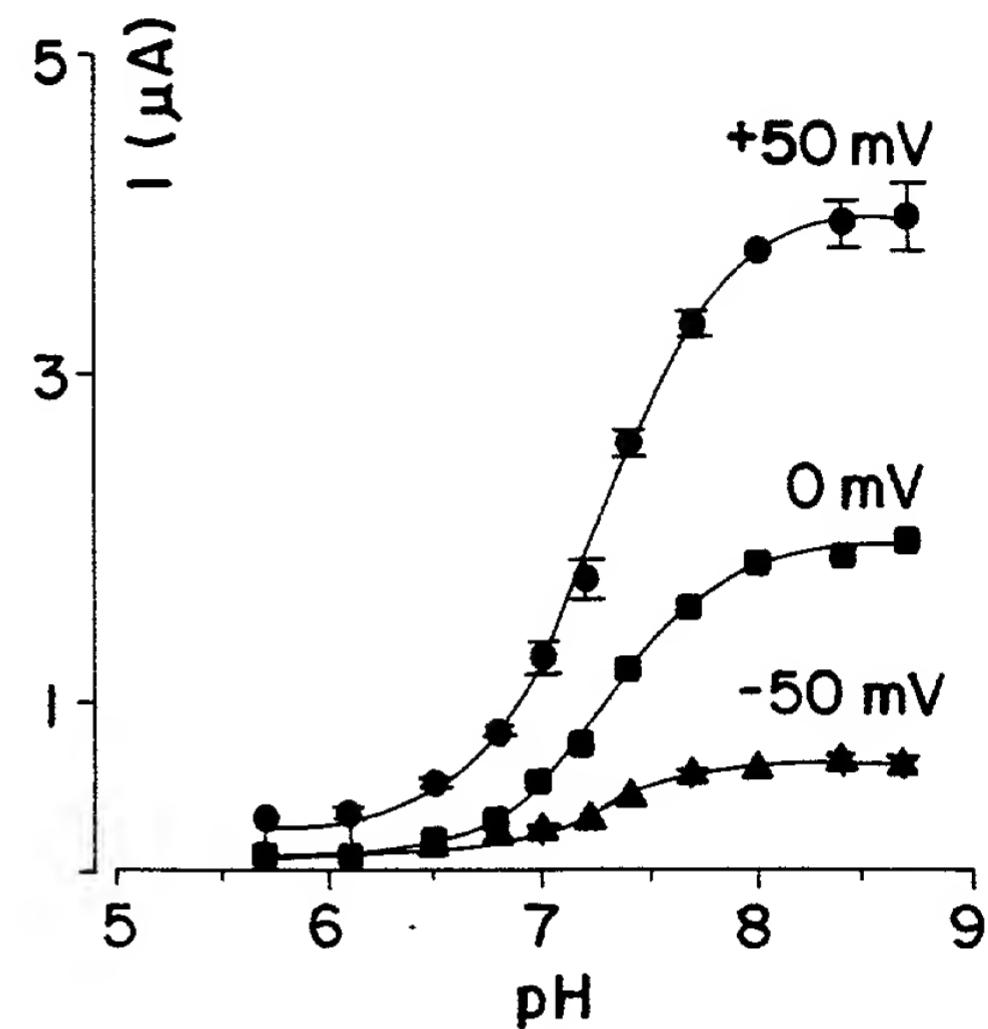


FIG. 13B

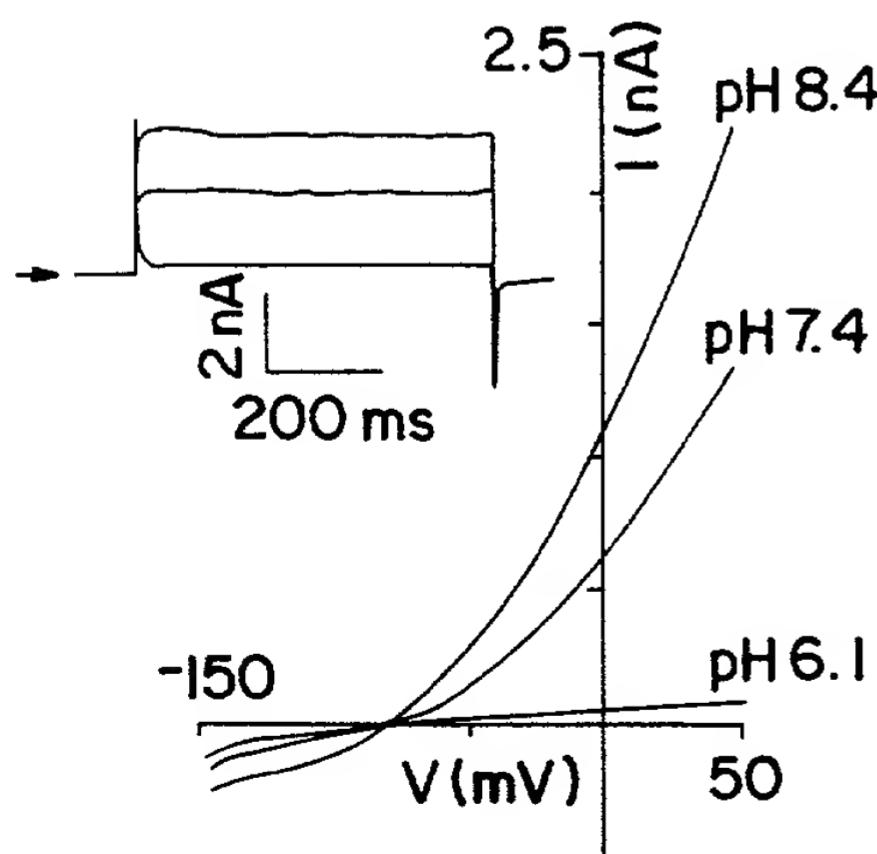


FIG. 13C

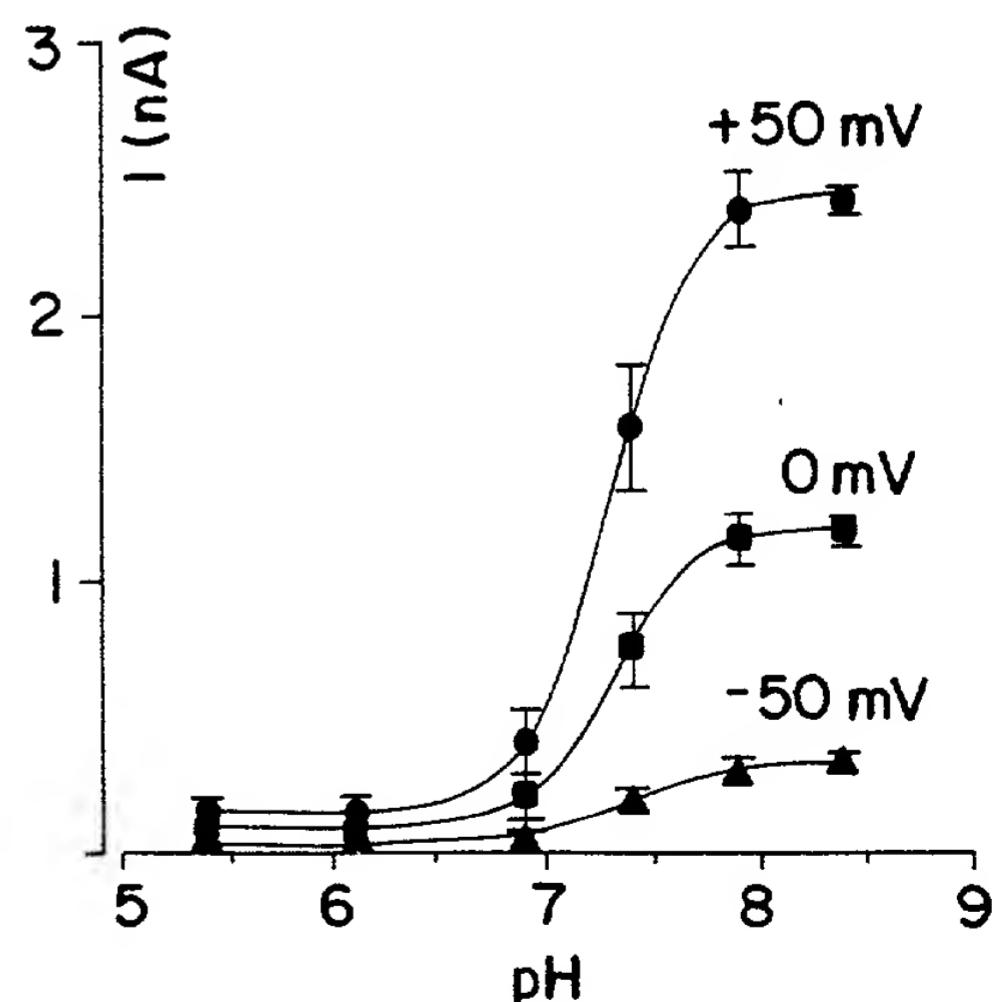


FIG. 13D